



SACRAMENTO
TransitAction
Regional Transit Master Plan



EXECUTIVE
SUMMARY



K Street Mall (Downtown Sacramento)



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Executive Summary

SACRAMENTO TRANSIT ACTION PLAN

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Introduction

What is the TransitAction Plan?

1. The TransitAction Plan is Sacramento Regional Transit's (RT) new long term plan, setting out a transit vision for the next 25 years. The Plan provides a comprehensive assessment of alternatives and presents an integrated package of transit investments and increased service frequencies designed to make transit a real transportation choice for everybody in the Sacramento region.

Why do we need a TransitAction Plan?

2. RT's last Transit Master Plan was produced in 1993. Since then the Sacramento region has seen significant population growth with an expanding low density land use form. With population and employment locations becoming even more dispersed, it has become even more difficult for RT to provide an affordable and effective transit service.

A NEW WAY TO GROW

3. In response to continued sprawl and large forecast increases in population, employment and households as well as an aging population in the Sacramento region over the next 30-50 years, the Sacramento Area Council of Governments (SACOG) has produced a land use Blueprint for the future of the region. This is based on "Smart Growth" principles with a focus on high quality, higher density, mixed use neighborhoods, which are designed with a greater emphasis on walking, cycling and transit use. These livable communities will be designed with "complete streets" so that there is less reliance on the private car providing for a more sustainable future.
4. RT fully supports the principles of the Blueprint and in response has developed this Transit Master Plan - the TransitAction Plan.

Sacramento's Blueprint addresses low density development challenges



THE ROLE FOR TRANSIT

5. The 2008 spike in gas prices, 2009 recession and the record levels of transit use over the past 12 months have highlighted that economic conditions have a considerable impact on where people choose to live and work, and how they travel. It is likely that predicted long term gas prices and population growth will contribute to worsening levels of congestion in the Sacramento region.
6. RT already provides a vital service in the region but there is now 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.

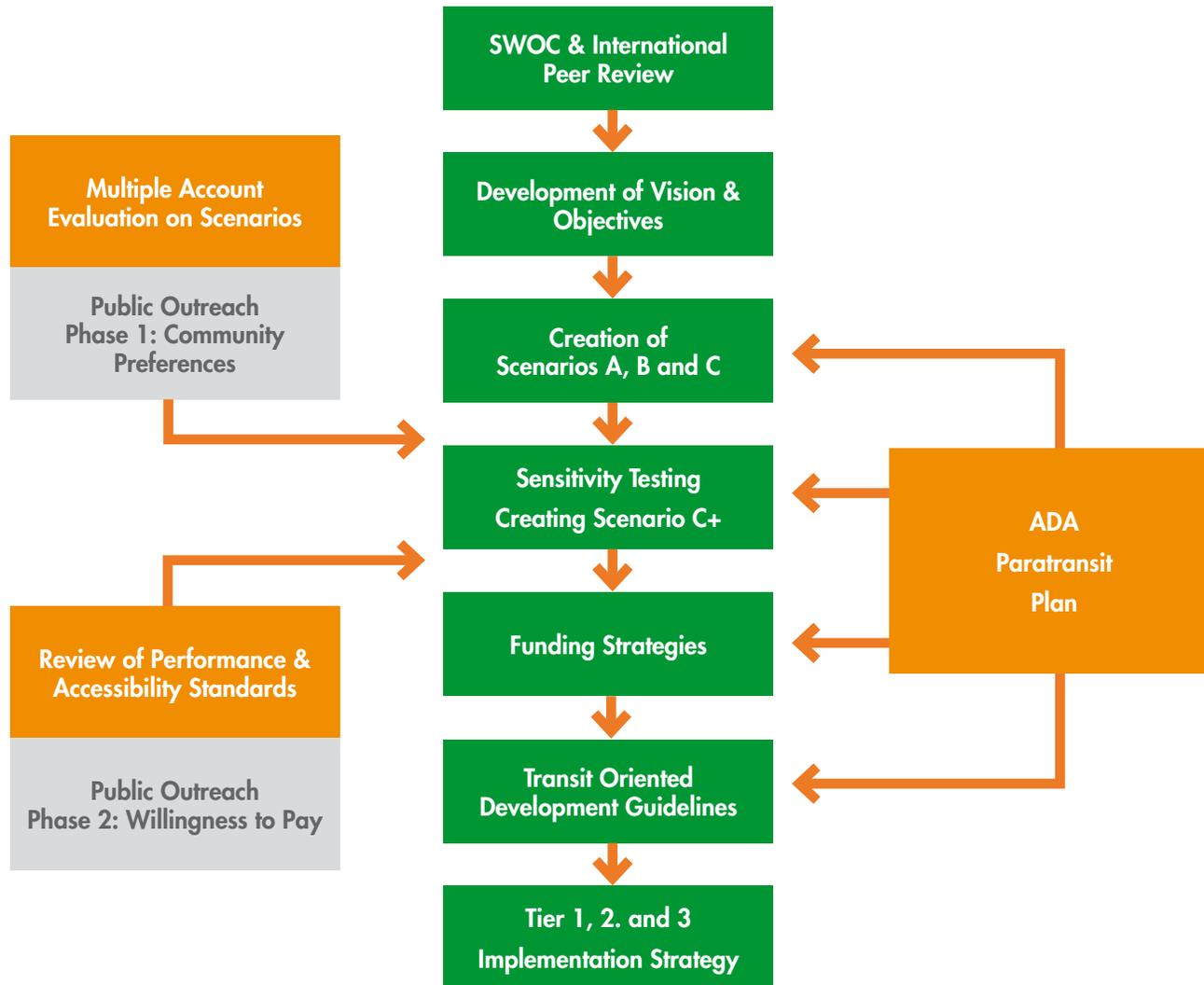
Developing the TransitAction Plan

7. Over the past year and a half, RT has developed the TransitAction Plan through a comprehensive planning process involving various stakeholders and members of the public. Figure 1 illustrates how this process unfolded. In parallel, RT has also updated its ADA/ Paratransit plan and that document is included as an Appendix to the main TransitAction Plan report.

A cyclist waits for the passing LRT (Sacramento, CA)



FIGURE 1 TRANSITATION PLAN PROCESS



Low emission, energy efficient vehicles will be part of the long term transit solution



The Transit Challenge

The Transit Challenge

8. Over the past twenty years, RT has continued to invest in transit infrastructure and services. The light rail system, opened in 1987, has continued to expand and bus services have been modernized with a fleet of natural gas-powered vehicles. Despite these improvements, transit services continue to capture a small part of the travel market in the region. High car ownership levels and cheap gas have contributed to the “transit challenge.”
9. A comprehensive review of existing plans, comparative assessments of other cities and discussions with key RT staff was used as background to define and better understand Sacramento’s Transit Challenge. The key outputs/directions for the plan were as follows:
 - The TransitAction Plan should be ambitious and provide direction for transit in the region: going beyond a “transit-only” plan, addressing wider land use issues in a growing region;
 - To be successful, RT needs to grow the market share and attract new choice riders by concentrating on providing competitive journey speeds, direct routes to key destinations, high(er) service frequencies, and better punctuality and reliability to attract ridership;
 - “Put the Passenger First” - RT needs to raise the quality and standard of the transit service provided by adopting a greater passenger focus to remove the barriers from transit use including: reducing nuisance behavior, improving information and passenger comfort, simplifying fares and ticketing, and making transfers easier;
 - Smart Growth and the Blueprint will not be delivered without transit. The TransitAction Plan has to draw relevant partners/agencies together to ensure that Smart Growth ambitions are realized; and
 - The TransitAction Plan has to provide the case for funding.
10. These key points are summarized in the two strengths, weaknesses, opportunities and challenges (SWOC) assessments presented in Tables 1 and 2 – the first looking at the wider issues facing the Sacramento region and the second focused specifically on RT.

Congestion is a growing challenge for delivering efficient transit services



TABLE 1 SWOC ASSESSMENT – THE BIG PICTURE

Strengths	Weaknesses
<ul style="list-style-type: none"> ■ High employment ■ (Relatively) low gas prices ■ Sacramento’s climate & topography ■ The Blueprint Initiative ■ State capital of California 	<ul style="list-style-type: none"> ■ 50 years of suburban, low density development ■ Dispersed, multiple activity centers ■ High automobile dependency ■ Congestion ■ Poor air quality
Opportunities	Challenges
<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 	<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

TABLE 2 SWOC ASSESSMENT – THE REGIONAL TRANSIT VIEW

Strengths	Weaknesses
<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 	<ul style="list-style-type: none"> ■ Transit market share ■ Perception of a ‘lifeline’ service offer ■ Finances are tight ■ Delivery timescales for new projects
Opportunities	Challenges
<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 	<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

Putting the Passenger First

The TransitAction Plan Vision and Objectives

11. A comprehensive review of RT's existing services was undertaken and benchmarked against US, Canadian and European cities. This audit, along with the SWOC assessments, provided the background to develop a Transit Vision Statement and a related set of Objectives for the TransitAction Plan. These are linked to the wider aims of the Blueprint and recognize the need for a radical shift in the use and perceptions of transit services. The aim is to move from transit services being considered a "lifeline service for transit-dependents" to a "lifestyle choice" provided as part of the Blueprint's Smart Growth future for the region.
12. A TransitAction Vision Statement and supporting Plan Objectives are summarized in Table 3.

THE TRANSITATION PLAN SERVICE PHILOSOPHY

13. In addition to the Vision and Objectives, the following service philosophy for delivering transit services has also been developed:
 - "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."

The TransitAction Plan Vision - supporting smart growth with high quality transit (Montpellier, France)



TABLE 3 TRANSITACTION PLAN VISION AND OBJECTIVES

<p>TransitAction Plan Vision Statement</p>	<p>“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 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) ■ Cost-effective: ■ 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, step-free 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 ■ Passenger Convenience: ■ 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

TransitAction Plan: Scenarios

14. As part of the development of the TransitAction Plan, three scenarios were developed to provide:

- Content for the public outreach and to solicit public feedback on what the future transit network should look like; and
- Detail for the technical team to prepare ridership forecasts and cost estimates of each scenario.

A Summary of the Scenarios

15. The details of each scenario are provided in Table 4 and summarized below:

- **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 (MTP 2035): assumes that the Blueprint land use plan is delivered, and that the transit network is as proposed in SACOG's MTP2035; and
- **Scenario C** – An Integrated Transit Solution: Assumes that the Preferred Blueprint Scenario 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.

Modern LRT is a key component of all three TransitAction Plan Scenarios (Charlotte, NC)



TABLE 4 SCENARIO COMPARISON

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 River 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
	Green Line	Phase 1 to Richards Blvd.	Single-track to Sacramento International 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
	Regional Rail/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 six 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	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		\$2.6 B	\$4.6 B	\$6.9 B

The People's Plan: Stakeholder and Public Input

16. 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 active participation from:
- Advisory Panels:
 - | Technical Advisory Committee (TAC) - staff from state, region and local agencies
 - | Financial Advisory Panel - national financial experts who reviewed financing options and proposals
 - | Mobility Advisory Council (MAC) - responsible for evaluating and providing feedback on the Americans with Disabilities Act (ADA)/Paratransit plans and proposals
 - | Partnership group
 - Key stakeholders; and
 - General public

Community Outreach – Phase 1

17. Between March and June 2008, presentations, open houses and forums were held with over fifty organizations across Sacramento County including:
- Eight public workshops/open houses;
 - Presentations to all city councils, the County Board of Supervisors and other partner agencies;
 - A school outreach program;
 - An interactive website;
 - Modern Bus and New Technologies Seminar;
 - Newsletters, phone line, advertising, and flyers; and
 - Media engagement.

European Street Tram at a station (Bordeaux, France)

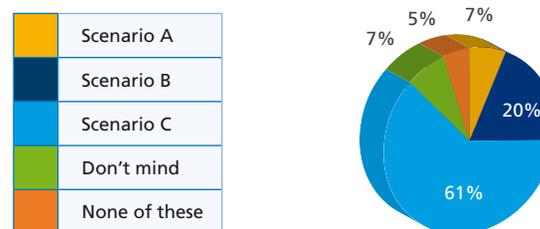


Bus Rapid Transit low-floor, level boarding (Nantes, France)



18. This phase of consultation was primarily focused on presenting the three scenarios and asked the following questions:
 - Which scenario do you prefer?
 - What characteristics do you want in a transit system?
19. The consultation confirmed that over 80% of the public would like RT to improve transit services beyond the existing network with substantial support (over 60%) for a comprehensive improvement of transit services as proposed under Scenario C. Figure 2 illustrates a key question and responses raised through the consultation process.

FIGURE 2 ONLINE SURVEY RESULTS REGARDING PREFERRED SCENARIOS



20. 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%).
21. 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%).

Conclusions of the Phase 1 Public Outreach Process

22. Across the various elements of the outreach program, there was a clear level of support for an ambitious course of action that includes a more integrated and attractive transit service covering a larger geographic area and with higher levels of service frequency. The input from key stakeholders suggested that these improvements should begin with an upgrading of the existing infrastructure followed by new modes, new service areas and an expanded transit offer.
23. A key message from both internal and external stakeholders however, is that transit investment had to be linked to land use changes and that the implementation of the major projects included in Scenario C should be dependent on significant intensification of land use in those corridors to support the transit investment.

Shelter designed by winner of a local architectural competition (Dundee, Scotland)



Hi-Bus: High Quality buses on own right of way (Kent, England)



The Preferred Network: Scenario C

24. The results of the first phase of public consultation clearly demonstrated that Scenario C was the preferred transit network. Scenario C included measures for addressing the most important aspects of an attractive transit service including improvements to network safety and security and service reliability and punctuality. In addition to overall transit service improvements, Scenario C was the preferred network because it includes:
- Integrated, smart card (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 security and cleaning the vehicles and network; and
 - CCTV safety cameras at all stops and onboard all vehicles.
25. The public consultation also revealed that high frequency transit services with faster journey times were also important. Scenario C includes a range of rail-based transit modes and a new type of bus service based on increased quality, frequency and capacity.

A Range of Transit Modes

26. Another aspect of a fully integrated transit 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.

Hi-Bus: High Quality, High Frequency, High Capacity

27. One of the significant changes within Scenario C is the introduction of a 'Hi-Bus' network - a network of high quality, high frequency, high capacity bus routes that will augment the light rail/streetcar network to complete the improved regional transit system.
28. The Hi-Bus network covers Bus Rapid Transit (BRT), Enhanced Bus and Express Bus options. This network will be supported by a further set of local services, including local routes, community shuttles and neighborhood ride services.
29. Table 5 summarizes the key characteristics of the rail-based modes and Table 6 summarizes the bus-based modes. All of which will be integrated into a single, coordinated network.

Local bus services play a key role in the TransitAction Plan



TABLE 5 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, typically mixed with other traffic
Vehicle type	90-120 foot long vehicles joined together, often with 3 or more carriages	90-120 electric powered foot long vehicles that can be joined together	60-150 foot electric-powered vehicles that can be joined together if needed	60-70 foot long vehicles that run as single units
Vehicle passenger capacity	150 passengers per vehicle	180-200 passengers per vehicle	180-250 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 key nodes	Easy, accessible, street-level services connecting 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) Dublin (Ireland) Nottingham (England) and elsewhere	US streetcar systems in Portland and Seattle and elsewhere
Illustrative example				

TABLE 6 BUS-BASED TRANSIT MODES

Characteristic	Hi-Bus			Community Bus		
	Bus Rapid Transit	Enhanced Bus	Express Bus (commuter service)	Local Bus	Community Shuttle	Neighborhood Ride
Right-of-way	Is defined as a segregated busway at street level with signal priority at intersections	Is in bus lanes and in mixed traffic with signal priority at key intersections	Operates on-street in bus lanes or in mixed traffic	Operates on-street mixed with traffic	Operates on-street mixed with traffic	Operates on-street mixed with traffic
Vehicle type	40-60 foot long could be articulated vehicles	40-60 foot long could be articulated vehicles	40 foot long vehicles with coach seating	40 foot long vehicles with low-floor boarding	Up to 30 foot vehicles	Up to 25 foot vehicles
Vehicle passenger capacity	60-120 passengers per vehicle	120 passengers per vehicle	50 passengers per vehicle	60 passengers per vehicle	20-30 passengers per vehicle	15 passengers per vehicle
Transit function	Rapid transit with limited stops along high-capacity corridors	Fast, frequent services connecting downtown, town centers and key destinations	Long-distance suburban services often via highways	Fixed-route services along major streets linking key destinations	Shorter fixed-route services connecting neighborhood centers	Circular services around smaller neighborhoods
Similar to:	BRT systems in the US and Europe	Articulated services around the US	Existing express bus routes	Existing fixed route services	Community routes around the US	Existing Neighborhood Ride services
Illustrative example						

Light rail and street tram can be integrated into urban environments (Portland, OR)

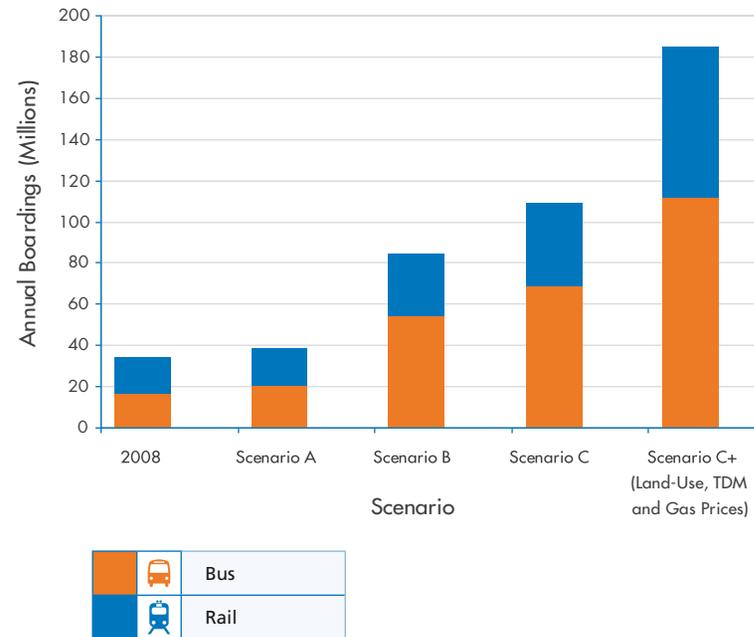


Developing Scenario C+

30. Each of the three scenarios was modeled to forecast the likely ridership they would generate by 2035. In addition, a number of sensitivity tests were undertaken to assess the likely impact on transit system performance. Sensitivity tests 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 complementary TDM measures).
31. 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.
32. 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.
33. Figure 3 summarizes the transit ridership projections for each scenario, highlighting the significant increase in riders produced by Scenario C+, which includes linkages with land use (transit-oriented development) and complementary transportation demand management measures.

FIGURE 3 RIDERSHIP FORECASTS

Forecast Annual Passenger Numbers (2035)



European Street Tram as part of the public realm (Strasbourg, France)



The TransitAction Plan

A Wider Assessment of the Scenarios

34. A wider 'multiple account evaluation' of each scenario was undertaken that looked at the benefits to: the community, the environment and the economy. In addition, an assessment of deliverability was also made, looking at the levels of funding and likely levels of local/regional support from the public, local jurisdictions and other stakeholders. The assessment 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 greatest travel time savings (benefits) to transit users along with greater job accessibility, particularly with high frequency transit services.
 - Under the Deliverability category the assessment highlighted the need for additional funding for capital projects and increased operating revenues.

Integrating higher density housing with transit is a key part of the TransitAction Plan



35. In summary, the results demonstrated that the *Integrated Transit Solution* (Scenario C), when combined with complementary land use and TDM measures (Scenario C+), provides the best combination of costs and benefits and is the preferred scenario and was adopted as the basis for developing the details of the TransitAction Plan.

Putting the Passenger First

36. The TransitAction Plan has a clear focus on 'Putting the Passenger First.' It is a simple phrase and it was used to guide the development and planning of the transit network and services for RT as part of the TransitAction Plan.
37. The transit network and supporting services are based on Scenario C+ and include major investments in capital projects (transit network expansion as well as improvements to stations/stops access), as well as in operations to provide a comprehensive transit network with high frequency services and longer operating hours.
38. In addition to the major capital projects, the TransitAction Plan also includes:
- Improvements to information, ticketing, stops and stations, wayfinding, as well as further funding for safety and security;
 - A comprehensive TOD program;
 - A set of complementary TDM measures to further support and encourage transit ridership;
 - ADA Plan update; and
 - Performance standards.
39. The details of the specific major capital projects are provided in Table 7 and shown on a full map in Figure 4.

FIGURE 4 2035 SCENARIO C TRANSIT NETWORK

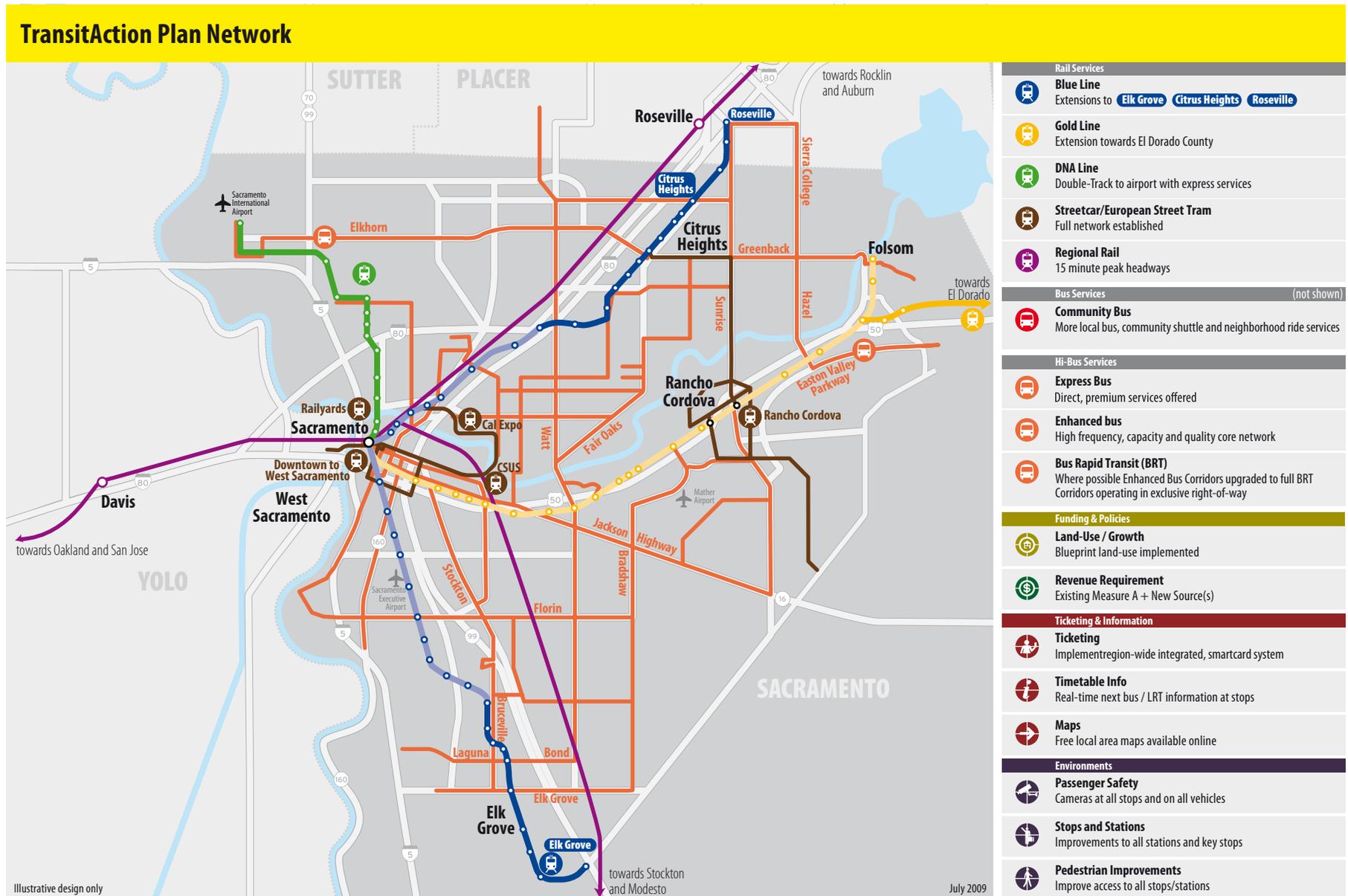


TABLE 7 TRANSITACTION PLAN – MAJOR CAPITAL PROJECTS

Alignment / Extension	Length (mi.)
Light Rail	
Downtown-Natomas-Airport (DNA)	13
Gold Line Extension to El Dorado County	10
Blue Line Extension to Citrus Heights	6
Blue Line Extension to Roseville	4
Blue Line Extension to Elk Grove	8
European Street Tram	
Downtown – North Loop	10
Downtown – South Loop	9
Citrus Heights – Rancho Cordova	8
Streetcar	
Rancho Cordova	19
Hi-Bus Network	
24 Hi-Bus Corridors	260

Transit Centers and Interchanges

- 40. The TransitAction Plan includes the development of new high frequency corridors for both bus and rail services. These corridors will not only provide faster, more reliable transit services, but will also provide opportunities to create new multi-functional transfer centers that will provide easy and convenient interchange between modes and services. There are opportunities at several of the ‘new’ interchanges created by the implementation of the European Street Tram and Hi-Bus networks while existing high-traffic interchanges can be improved to provide better linkages between the modes and enhance the transit experience.
- 41. While the details of the transit centers will need to be further developed, it is anticipated that they would include convenience facilities (food, dry cleaning, news stands, etc...) as well as all of the transit related facilities one would expect of a world-class system (integrated ticketing, real-time passenger information, enclosed shelters, etc...)

Easy and convenient bus to light rail interchange (San Diego, CA)



Simple cross-platform interchange between bus and European Street Tram (Strasbourg, France)



Transit-oriented development with low floor Light Rail (Minneapolis, MN)



An Integrated Approach to Planning

42. The TransitAction Plan provides RT with a strategy for dramatically improving and expanding transit service in Sacramento. It includes both the high-level component parts of the network as well as policies and measures that RT will use to develop the specifics of the network and monitor its ongoing performance. These include:
- Standards, guidelines and polices for transit provision;
 - Benchmarks for system productivity; and
 - A system for identifying future transit needs and opportunities.
43. Each of these are covered in detail in the full TransitAction Plan, however the key components of network accessibility, service hours and frequencies are included here.

Coverage and Accessibility Standards

44. 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 provides the current RT standards and the new TransitAction Plan standards (as percentages of the population within 5/10/15 minute walk of the transit network).
45. RT's existing standards are unrealistically high with current service levels providing 66% accessibility to all services (target is 95%) and only 8% to the high frequency services (target is 80%). Also, the current standards only cover population with no consideration given to employment catchment. The TransitAction Plan standards were therefore developed to reflect a more balanced and progressive approach to accessibility. The population standards have been lowered to reflect an ambitious but attainable goal, while 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.

A Bus Rapid Transit station with level boarding (Eugene, OR)



TABLE 8 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 (1/2 mile)	95% (population)	80% (population)	75% (population) 85% (jobs)	50% (population) 70% (jobs)
15-minute (3/4 mile)	–	–	90% (population) 90% (jobs)	70% (population) 80% (jobs)

46. 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 and aging population. By providing a wide-spread, frequent transit service, RT will be able to cater to the ‘active elderly’ by providing accessible transit within walking distance to enhance their lifestyles, provide more transportation choices and in turn, reduce the needs on the Paratransit system.
47. Figure 5 shows the 5, 10 and 15-minute walk catchments of an indicative TransitAction Plan network (shown as green circles around each stop/station) demonstrating that over 85% of the population and over 90% of jobs can be within easy walking distance of frequent transit services.

TRANSITATION PLAN WALK CATCHMENTS

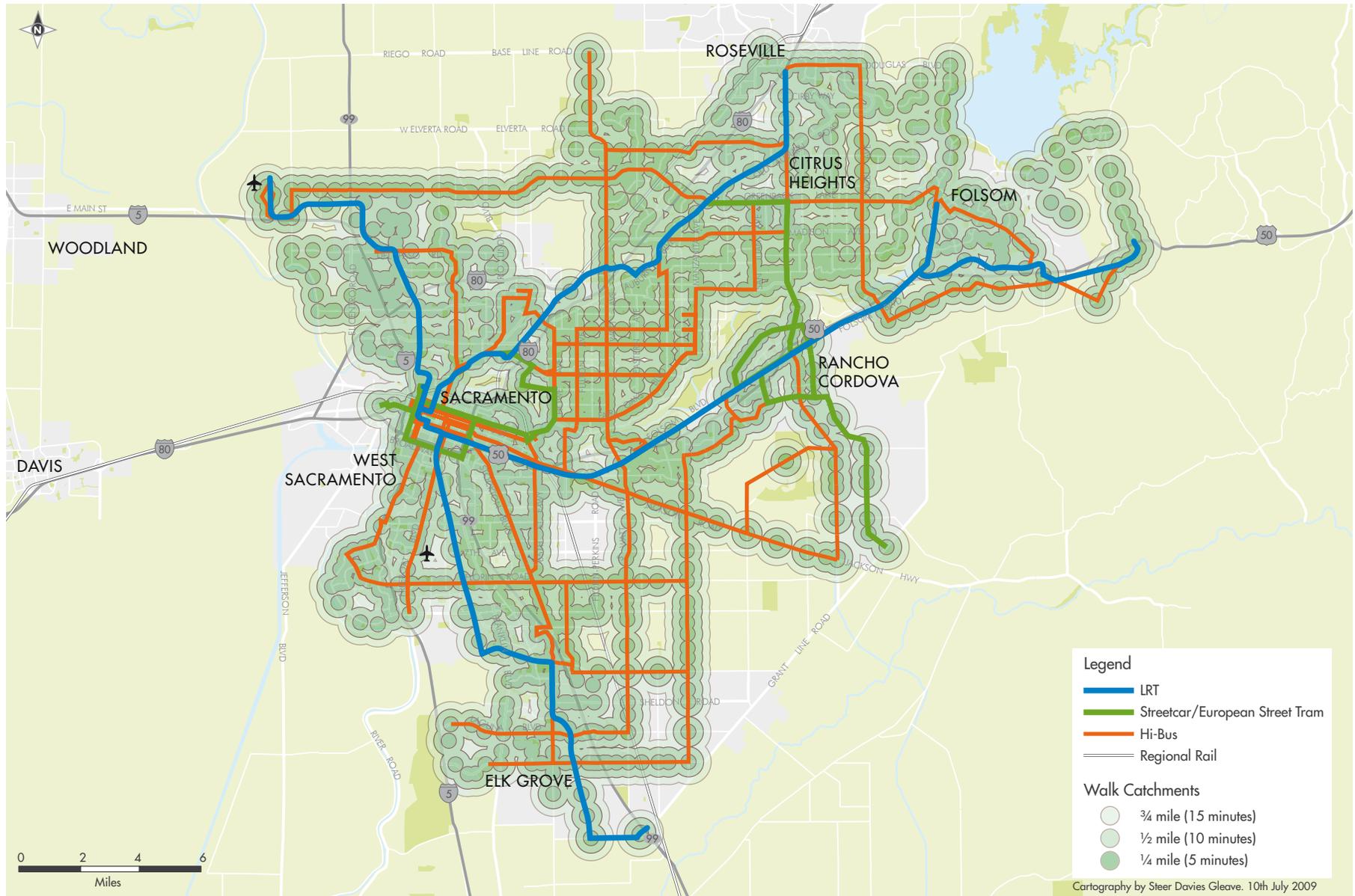


TABLE 9 TRANSIT SERVICE FREQUENCIES

Mode	Peak	Off Peak	Early Morning /Late Evening	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

Service Frequency Standards

- 48. 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.
- 49. The standards presented in the TransitAction Plan (Table 9) 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 or consult a timetable in advance. Minimums are not provided as they will be (in part) determined by funding availability.
- 50. Other standards and guidelines in the full plan include travel time competitiveness standards, lifeline transit service standards, and stop-station spacing guidelines.

Integrated streetcar and bus route planning (Portland, OR)



Productivity and Performance Goals

51. RT uses a large number of productivity and performance measures to assess and analyze its performance. These are 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(s).
52. In addition, RT monitors customer satisfaction and perceptions of safety through Customer Advocacy Reports and System Crime Statistics.
53. As part of the TransitAction Plan, these productivity and performance goals were reviewed and amended to provide the most effective level of analysis in order for RT to develop a transit system which meets the needs of the traveling public.

Transit shelter, real time information, local area map and easy ticketing - all key parts of the transit trip (Montpellier, France)



Modern shelters make waiting for transit more comfortable (Montpellier, France)



European Street Tram planned in parallel with new development (Montpellier, France)



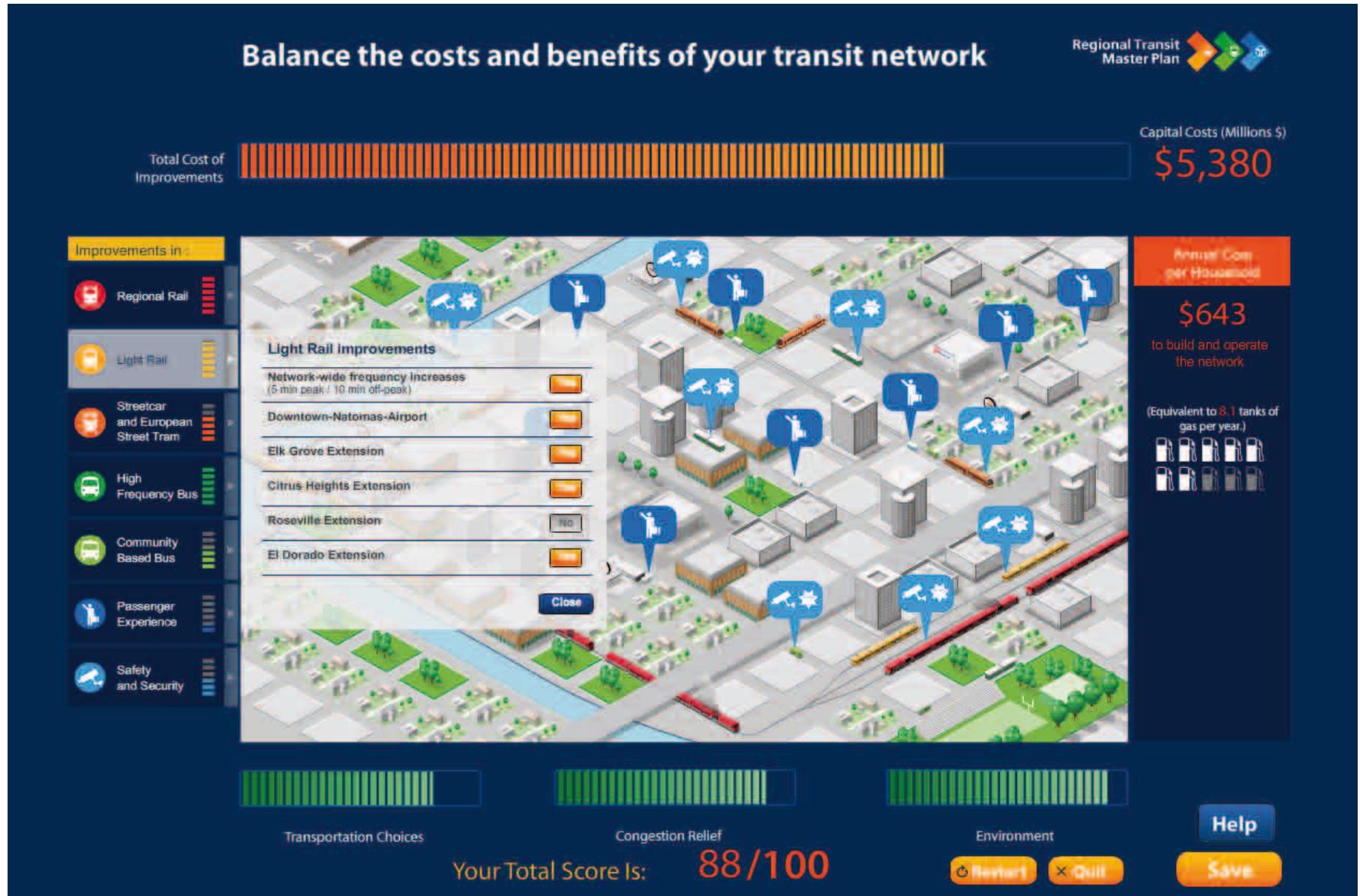
European Street Tram connects people to places (Dublin, Ireland)



Community Outreach – Phase 2

54. While the scenario evaluation and first phase of outreach supported the Scenario C transit network and associated components to become the preferred option for the TransitAction Plan, it identified a gap in the available funding to build and operate the network.
55. A second phase of outreach was therefore undertaken in late 2008 - early 2009 using an interactive online 'game' to 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 expansion.
56. Figure 6 shows a sample of the interactive tool in use. In total, well over 1,000 responses were received and there remained a high level of support for large scale transit investments with the average respondent was willing to pay almost \$570 per household per year.

FIGURE 6 WILLINGNESS-TO-PAY EXERCISE



Finding the Funding

57. The TransitAction Plan provides 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.
58. So while the TransitAction Plan does not prescribe exactly how the plan will be funded, it does provide a summary of RT's existing funding sources and mechanisms as well as providing a menu of funding options that could be used in combination to fund the full TransitAction Plan.

How Regional Transit is Currently Funded

59. RT is currently funded from a number of different revenue sources that can be grouped into the following three categories:
 - Operating revenues (fares, contract services, other operating income);
 - Local and state assistance; and
 - Federal assistance.
60. Table 10 summarizes the current (FY2010) levels of funding received from each primary revenue source along with the split provided for operating and capital funding.

Bus Rapid Transit in a dedicated lane (Eugene, OR)



Bus Rapid Transit (Istanbul, Turkey)



TABLE 10 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

- 61. The development of the TransitAction Plan will require approximately \$6.9 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.
- 62. Table 11 summarizes the capital expenditures included in the TransitAction Plan. The timing of project implementation will need to be linked to funding availability and therefore subject to further development as the plan is implemented.

TABLE 11 CAPITAL COST OF THE TRANSITACTION PLAN

Project	Cost (millions)
Downtown-Natomas-Airport (DNA) LRT	\$790m
South Line to Cosumnes River College	\$320m
Downtown European Street Tram	\$580m
Rancho Cordova Streetcar	\$430m
Vehicles - LRT, Streetcar, Bus	\$2,660m
Regional Rail rolling stock	\$390m
Hi-Bus network infrastructure	\$550m
Ticketing	\$80m
Timetable, maps and information	\$10m
Security improvements (cameras and extra police)	\$30m
Improvements to access to stations/stops	\$85m
Additional maintenance and other facilities	\$575m
Other Infrastructure Programs	\$405m
Total (millions) in today's \$	\$6,900m

63. Table 11 only includes the capital projects that will be funded by RT, and does not include projects that will be funded by external organizations such as the cities and counties in the region. Projects not funded by RT, but which are part of the TransitAction Plan are:
- Blue Line light rail extensions to Elk Grove, Citrus Heights and Roseville;
 - Gold Line light rail extension to El Dorado County; and
 - European Street Tram route from Rancho Cordova to Citrus Heights.

European Street Tram at a park and ride stop (Bordeaux, France)



Transit and integrated landscape planning (Montpellier, France)



Funding Gap

64. The TransitAction Plan includes an expanded network, more frequent services and longer service hours. While annual ridership is projected to increase by up to six times today's levels as a result of these service increases, with RT services recovering between 20 and 30% of their total costs through the farebox, any increases in service will create a gap in funding. The total 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 year.
65. Funding from state and federal sources has declined in the last year due to government's re-prioritization of general funds and lower than expected fuel and sales tax revenues. This trend is expected to continue over time resulting in a lower proportion of RT's funding coming from the state and federal grants. This means that a larger proportion of funding for both capital and operating expenses has to come from local sources.
66. This highlights the need for an integrated approach to transit service provision and expansion, with service provided first to areas with supportive transportation demand management measures and transit-oriented development policies in place.

Additional Sources of Funding

67. 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. Based on experience across the US and from around the world, a number of alternative funding sources have been identified.
68. 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 revenue sources; and

- **Transportation demand management 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).
69. Table 12 summarizes the revenue sources that are deemed suitable for RT to pursue as funding mechanisms for the TransitAction Plan. The table provides an example of a fee, the amount of annual revenues it would generate and a relative degree of difficulty of implementing the change.

70. It is important to note that the precise amount and timing of each new funding source will be determined through further research and consultation with the RT Board, its stakeholders and the general public. Table 12 is provided only to demonstrate that there is a range of funding options that RT could pursue that in combination could be used to implement the full TransitAction Plan.

TABLE 12 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 Fees	Project specific	TBD	Possible, but requires partner (County, City) support – increase existing charge on communities
TOTAL Annual Revenue Generated		\$365m	

European Street Tram attracts Transit-Oriented Development (Dublin, Ireland)



Transit-Supportive Investment Opportunities

71. The work undertaken in developing the TransitAction Plan and evidence from peer cities in the USA has shown that implementing transit-friendly policies and initiatives alongside large-scale investments in transit can generate significant extra ridership at relatively low cost. The policies and initiatives included in the TransitAction plan include:

- Transit-Oriented Development guidelines;
- Recommendations on complementary measures, including:
 - | Traffic management;
 - | Parking restrictions; and
 - | Behavioral change.

72. 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. 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 demand.

TRANSIT-ORIENTED DEVELOPMENT (TOD) GUIDELINES

73. The success of RT and the TransitAction Plan is tied to the delivery of transit supportive communities with roads, sidewalks, bike paths and land use all developed in a way that facilitates convenient access to transit.

An Integrated Transit Solution - land use, sidewalks, bicycle parking, trees and transit



European Street Tram provides direct access to shopping (Dublin, Ireland)

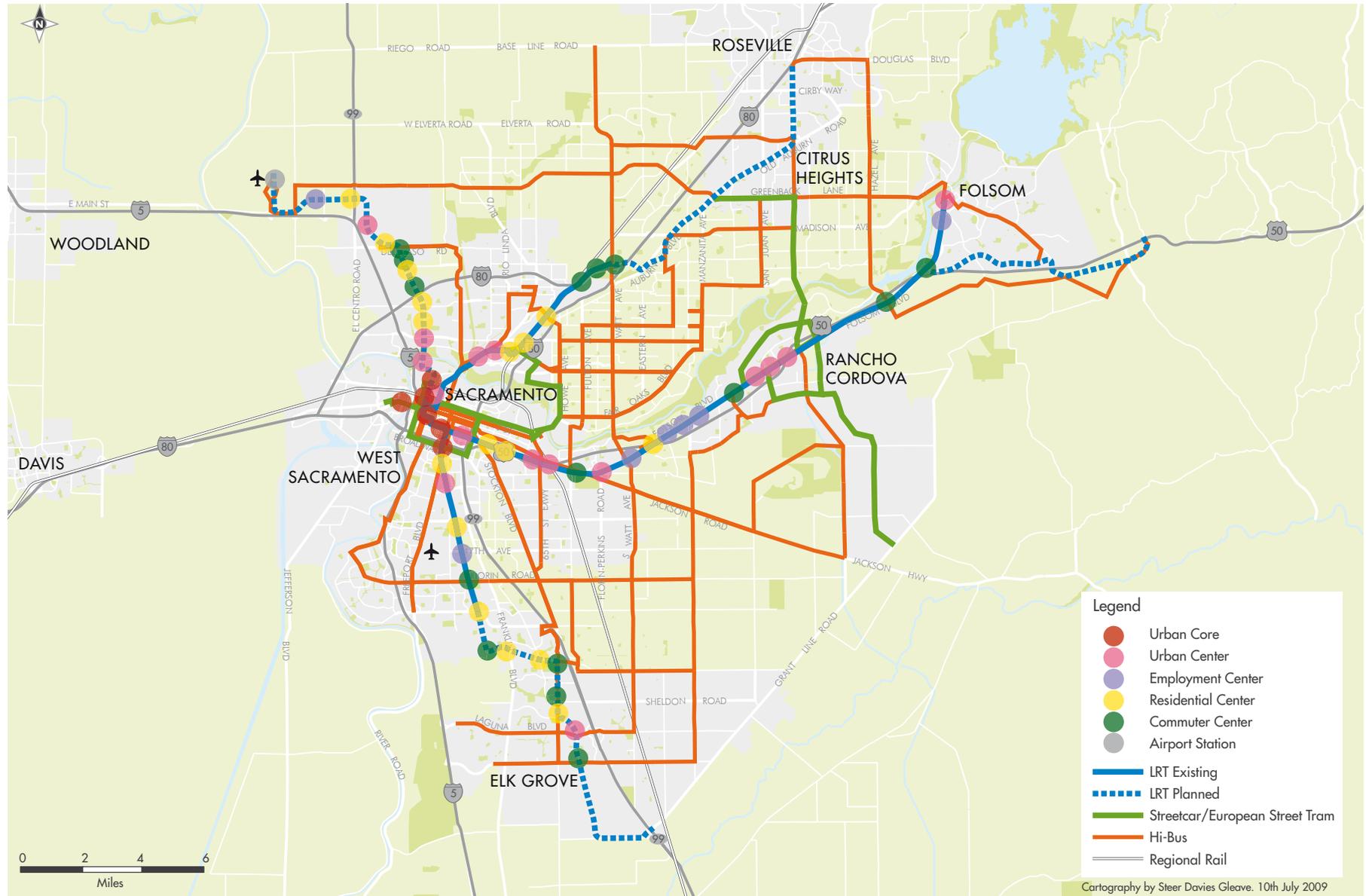


74. RT has therefore developed a set of Transit-Oriented Development Guidelines for the local jurisdictions to consider incorporating into their own policies and guidelines that will help to promote and deliver TOD in Sacramento.
75. The guidelines have been developed as a flexible set of recommendations to begin the conversation on a common policy and vision for development around Sacramento's transit investments.
76. This marks a clear departure from "standardizing" development expectations for TOD, particularly in the area of land use and density, but also with respect 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 policies should acknowledge this reality. The scope to develop TOD adjacent to Hi-Bus corridors has also been recognized.
77. Figure 7 presents the draft station types and the full guide presents RT's full expectations and guidelines with respect to three elements of city building:
 - Land Use and Community Character;
 - Transportation, Mobility and Access; and
 - Civic Amenities including green space.

DELIVERING TOD - KEY ACTIONS

78. The full TransitAction Plan explains that while many of the necessary ingredients already exist to promote TOD, they 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.
79. The TransitAction Plan therefore establishes the key roles and responsibilities for delivering TOD in Sacramento and explains that the most effective way to deliver TOD will be for RT, working with its partner agencies, to establish the necessary foundation for the physical, regulatory, financial and political environments to absorb transit-oriented development opportunities when they occur.

FIGURE 7 TOD STATION TYPOLOGIES



Bus Rapid Transit on a grass track (Eugene, OR)



Distinct vehicle livery differentiates two European Street Tram lines (Montpellier, France)



Delivering the TransitAction Plan

80. The TransitAction Plan is a 26-year plan designed to set the course and vision for 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 significant new sources of funding. All of these changes cannot be accommodated or accomplished at once and an initial implementation strategy has therefore been included with the TransitAction Plan. It contains a number of assumptions on funding availability and will need to be periodically reviewed and updated as funding and other conditions change.

Prioritizing the Investments

81. The TransitAction Plan recognizes that all the improvements have to be funded and that existing land use and population densities will not support a case for all the policies and projects to be delivered immediately. In order to determine the relative priority of the projects, a technical evaluation was undertaken using the same Multiple Account Evaluation (MAE) process used to assess the three scenarios. Each account in the MAE framework was populated and a final ranking was established considering all four accounts equally (i.e. no account given more weight than the others).

LOCAL INPUT TO THE DELIVERABILITY ASSESSMENT

82. 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.

Bus Rapid Transit (Leeds, England)



A Tiered Approach to Implementation

83. 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 the equivalent of a ¼¢ sales tax
 - **Tier 2 Projects and Improvements** - projects that could be funded with the 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 (over and above those in Tiers 1 and 2).
84. 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.
85. Table 13 summarizes the projects and improvements included in each tier, with maps of each tier provided as Figures 8, 9 and 10.

TABLE 13 TRANSITACTION PLAN IMPLEMENTATION - SUMMARY OF TIERS

Project	Base / Scenario A	Tier 1	Tier 2	Tier 3
CAPITAL PROJECTS				
RAIL				
Blue Line	-	-	-	-
South Line to Cosumnes River College	✓	✓	✓	✓
Elk Grove Extension	-	-	✓	✓
Citrus Heights Extension	-	-	✓	✓
Roseville Extension	-	-	-	✓
Gold Line	-	-	-	-
Downtown – Natomas – Airport (DNA) LRT	MOS1	✓	✓	✓
El Dorado Extension	-	-	-	✓
STREETCAR/STREET TRAMS				
West Sacramento Downtown Streetcar	-	✓	✓	✓
Rancho Cordova Streetcar	-	Phase 1	Phase 1	✓
Downtown European Street Tram – North Loop	-	-	✓	✓
Downtown European Street Tram – South Loop	-	-	✓	✓
Citrus Heights – Rancho Cordova European Street Tram	-	-	-	✓
REGIONAL RAIL	-	-	30-min peak	15-min peak
HI-BUS CAPITAL IMPROVEMENTS	-	10-15 routes	10-15 routes	✓
ADA PARATRANSIT SERVICES	3-5% growth	2-5% growth	1-5% growth	0-5% 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 (total sales tax equivalent)	0	¼¢	½¢	1½¢

FIGURE 8 TIER 1 PROJECTS AND IMPROVEMENTS

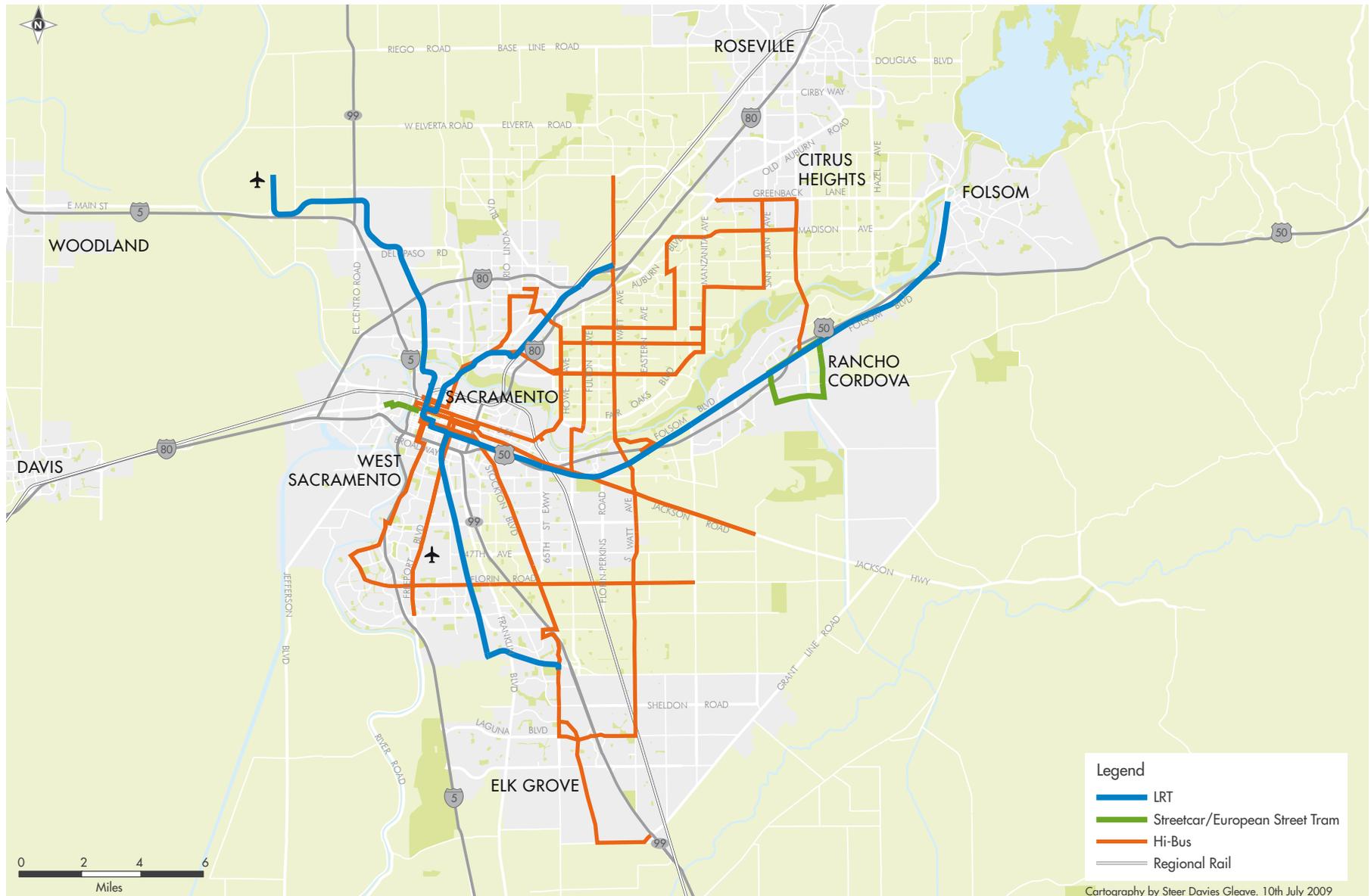


FIGURE 9 TIER 2 PROJECTS AND IMPROVEMENTS

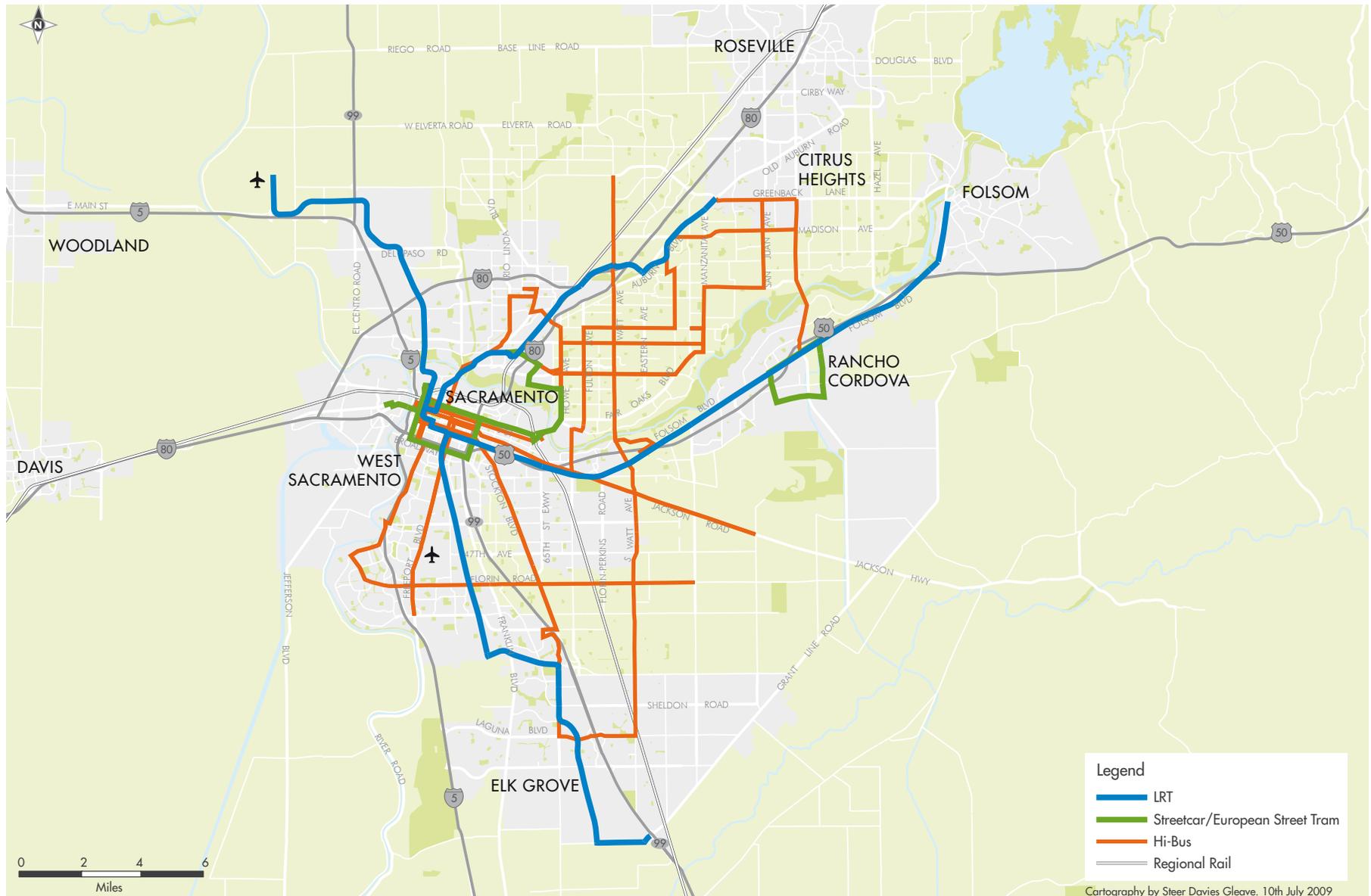
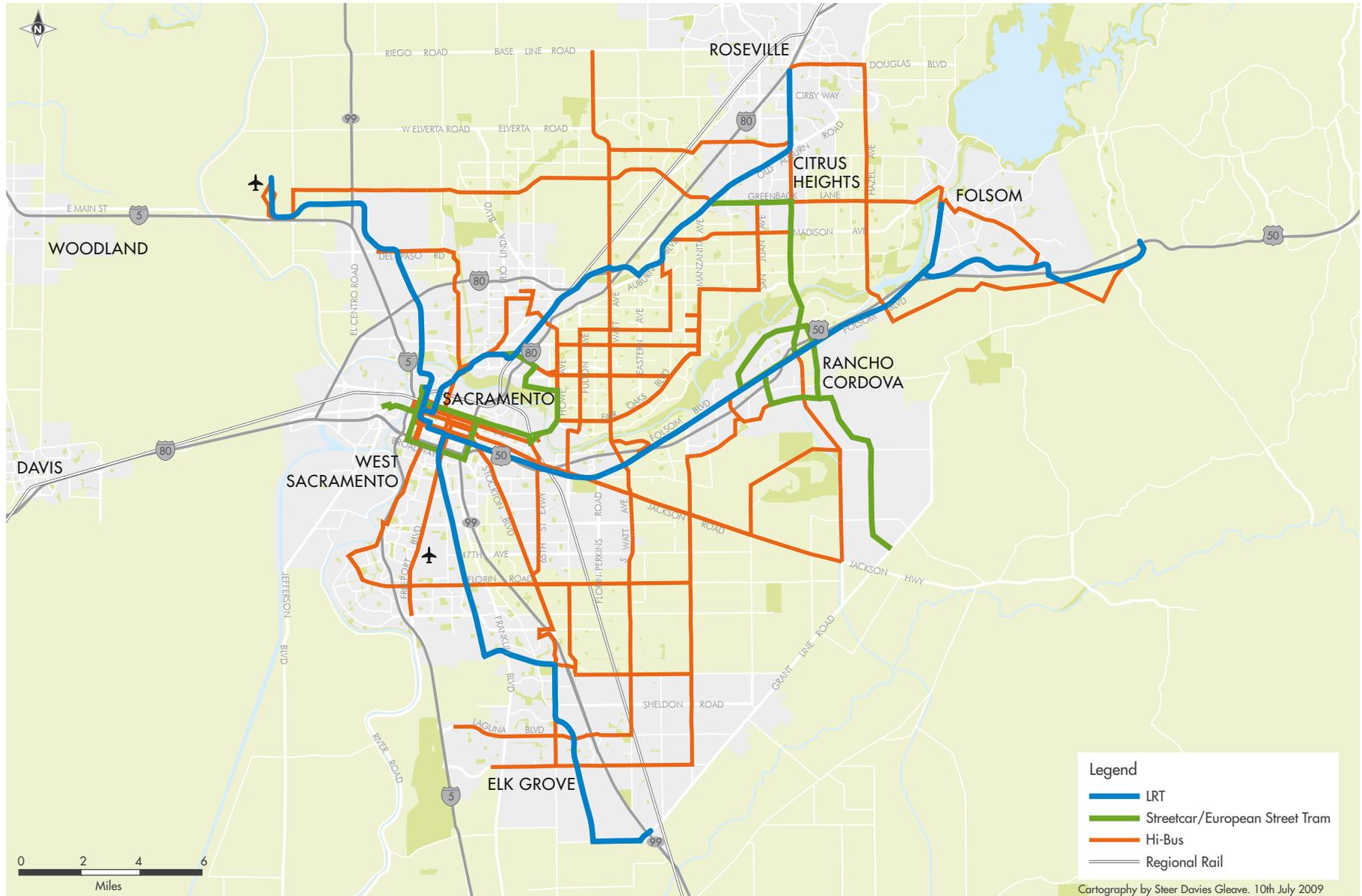


FIGURE 10 TIER 3 PROJECTS AND IMPROVEMENTS



Conclusions and Next Steps

86. 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.
87. The Short Range Transit Plan 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.
 - **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 first section of the DNA Line.
 - **Begin Project Development** – 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 incorporate the Transit-Oriented Development Guidelines into their own guidance.
88. **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.

Low floor Light Rail (Minneapolis, MN)



Light Rail and new land use development (Lyon, France)



Glossary of Abbreviations

ADA	AMERICANS WITH DISABILITIES ACT
BRT	BUS RAPID TRANSIT
CCTV	CLOSED-CIRCUIT TELEVISION
CRC	COSUMNES RIVER COLLEGE
CSUS	CALIFORNIA STATE UNIVERSITY, SACRAMENTO
DNA	DOWNTOWN-NATOMAS-AIRPORT
LRT	LIGHT RAIL TRANSIT
MAC	MOBILITY ADVISORY COUNCIL
MAE	MULTIPLE ACCOUNT EVALUATION
MTP	METROPOLITAN TRANSPORTATION PLAN
RT	SACRAMENTO REGIONAL TRANSIT DISTRICT
SACOG	SACRAMENTO AREA COUNCIL OF GOVERNMENTS
SWOC	STRENGTHS, WEAKNESSES, OPPORTUNITIES, CHALLENGES
TAC	TECHNICAL ADVISORY COMMITTEE
TBD	TO BE DETERMINED
TMP	TRANSIT MASTER PLAN
TDM	TRANSPORTATION DEMAND MANAGEMENT
TOD	TRANSIT-ORIENTED DEVELOPMENT
VMT	VEHICLE MILES TRAVELED

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