

Comprehensive Capitol Area Shuttle Report

Prepared for:
EIP Associates
and
State of California
Department of
General Services



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EXECUTIVE SUMMARY

Vision

The State of California is desirous of implementing a “campus life” shuttle system to serve the downtown Sacramento Capitol Area, West Sacramento (Ziggurat) and the state-owned peripheral parking lots. The shuttle system would primarily provide free, timed connections between suburban commuter transit routes feeding into downtown and key State office buildings. Currently, nine individual public transit operators, plus AMTRAK and Sacramento Regional Transit (RT) (bus and light rail), serve downtown Sacramento each workday. These operators are limited in how many stops they can make while in downtown.

A well designed, well marketed, comprehensive shuttle system that is run on cleaner fuel vehicles could:

- Improve government operations
- Increase transit ridership
- Reduce demand for parking in downtown
- Reduce air pollution

Existing Conditions

Currently, the State contracts for the operation of six independent shuttles (five are contracted with a private operator using 19 buses, 17 of which are diesel; and one is contracted with RT, using Compressed Natural Gas (CNG) buses. Three of the routes serve key State office buildings and the peripheral parking lots under the WX Freeway (Capitol City Freeway). A fourth route connects the Department of Health Services (DHS) offices on Richards Boulevard with transit and offices in downtown. A fifth route connects the California Public Employees Retirement System (CalPERS) and the Department of Consumer Affairs with the light rail station at 8th/O Streets. A sixth route, which began operation in November 2001, connects the Ziggurat Building in West Sacramento with downtown Sacramento and key bus and light rail stops. These routes are operated and marketed individually and carry 1,969 State riders per day.

Currently, the State does very little to market or promote their shuttle programs. For example, the shuttle routes are not included on most department websites, have poor signage and, prior to this report, there was no comprehensive map of all State contracted shuttles.

2001 Employee Survey

A 2001 survey of 50,000 downtown State employees from over 130 different departments found that:

- Sixty-nine percent (69%) of respondents indicated they would use public transit to commute if a free direct shuttle were available to their worksite (27% take transit today).

- The State's commitment and proactive approach to encouraging alternative modes of transportation is yielding impressive numbers of employees using public transit and other forms of ridesharing (54.11%). However, the survey results show there is ample opportunity to increase alternative mode usage if parking rates were increased, and/or public transit and shuttle services were expanded.
- Employees using an alternative form of transportation largely do so for financial reasons. The cost of parking, operating a vehicle and saving wear and tear costs were the three top reasons employees gave for using alternative transportation.
- Employees who drive to work alone do so primarily for time related reasons. The top four reasons given for driving to work alone were work schedule, no transit available, the need to make emergency trips, en route trips, and conducting personal business.

Recommendations

Re-design the State's independently operated shuttle services into a comprehensive shuttle system to improve the quality of service and to create a simpler, more user friendly service.

Operate the State Capital Area Shuttle with 100% low emission vehicles such as CNG to reduce air pollution.

The State should contract with Sacramento Regional Transit for the Comprehensive Capitol Area Shuttle in order to integrate the service into the RT system.

Implement user friendly marketing materials such as a system map, pocket time tables, signage at bus stops and on buses, internal promotion through State department websites, kiosks and newsletters, as well as external promotion in the RT Bus Book and suburban operators' materials to increase shuttle and transit ridership.

The recommended Comprehensive Capital Area Shuttle is projected to:

- Carry 53% more riders the current program
- Free up valuable downtown real estate for higher and better uses (by reducing parking demand)
- Reduce harmful air pollutants (NO_x and diesel particulate emissions)
- Increase mobility options and reduce traffic congestion
- Reduce the cost per rider from \$3.76 (today) to \$3.33 (projected); an 11% reduction in cost per rider
- Increase in shuttle ridership to 750,000 riders per year (a 53% increase)

1.0 BACKGROUND

The State of California would like to create a “campus like” shuttle system that provides frequent, convenient connections between commuter transit lines feeding into downtown and State offices, and between State offices. The State’s objective is to encourage employees to more fully utilize public transit and reduce demand for parking in downtown; thereby reducing traffic congestion, impacts on local neighborhoods, and air pollution. The *Comprehensive Capitol Area Shuttle Report* assesses existing transit and shuttle services. It identifies potential service gaps, and evaluates the feasibility for the State to provide a “campus-like” shuttle system to serve the downtown Sacramento Capitol Area, West Sacramento (Ziggurat) site and associated peripheral parking lots owned by the State.

This Comprehensive Capitol Area Shuttle System will:

- Improve government operations,
- Provide additional services to State employees,
- Reduce demand for parking in the downtown,
- Improve air quality, and
- Reduce excessive and costly use of private taxi services.

The first task in developing the Comprehensive Capitol Area Shuttle System is to inventory the current shuttle services available to State workers. What current shuttle routes are available? How many people ride the shuttles? The second task is to assess potential demand for additional shuttles. Will State employees ride a shuttle? If so, where do they want to travel within downtown? How often should the shuttle operate? These questions and a number of others must be answered before the shuttle system can be developed.

This report assesses potential demand as established from two primary sources: the 2001 Capitol Area State Employee Survey, and a review and analysis of existing and past ridership figures from individual downtown shuttle routes. An inventory of all current State operated shuttles, public transit services, and a matrix of key downtown transit milestones are also presented in this report.

The demand was assessed for two separate markets: commuter demand, which would require services in the peak periods only, and midday demand for intra-State office building travel, lunch, shopping, etc.

In designing the Comprehensive Shuttle concept, the report assesses both unmet needs/unserved areas and discusses possible shuttle routing and circulation. Two shuttle system options are described in this report with corresponding graphical presentation. Preliminary ridership figures, order of magnitude cost estimates, and cost per rider calculations are also provided. The mobility, air quality, and land use benefits are discussed, and a matrix of key downtown transit milestones is presented.

Criteria for any provider operating the Comprehensive State Shuttle System is included in this document as well as strong recommendations to provide an enhanced public information/outreach program to promote and advertise the availability of the shuttle system.

2.0 EXISTING CONDITIONS

This section of the report provides information from the 2001 employee survey, an inventory of the existing State and RT operated shuttles and public transit service provided in the downtown Sacramento/Capitol Area. A matrix of key transportation projects scheduled for completion over the next 18 months is also included.

2001 Capitol Area State Employee Survey

In May 2001, the State Department of General Services (DGS) conducted an extensive employee survey in an effort to better understand employee transportation and parking needs. Every effort was made to reach the approximately 50,000 State employees working for 130 departments in the downtown area. Surveys were conducted largely via electronic media and a few were done using hard copy surveys. Establishing a current baseline of employee methods of transportation and understanding their choices is critical to accurately project and meet the future needs of State employees.

Approximately 50,000 State employees that work in the downtown area were identified as potential respondents of the survey and the response rate is based on that number. A total of 15,352 employees took the survey for a response rate of 31%. The survey had an error factor of 2.3%.

Midday Service

A number of questions in the 2001 employee survey were specifically designed to help assess the demand for a downtown shuttle service. The results of these questions can be very helpful. However, it is important to note that the response rate to the employee survey was 31%. It is probable that the survey respondents have a predisposition to be supportive of transit and alternative modes of transportation as people tend to respond to surveys in which they have an interest in the topic.¹ Because the number of employees that did not take the survey was greater than the number that did, care must be taken when utilizing the survey data not to overstate demand because the 31% of State employees that responded to the survey may not be fully reflective of all the downtown State employees.

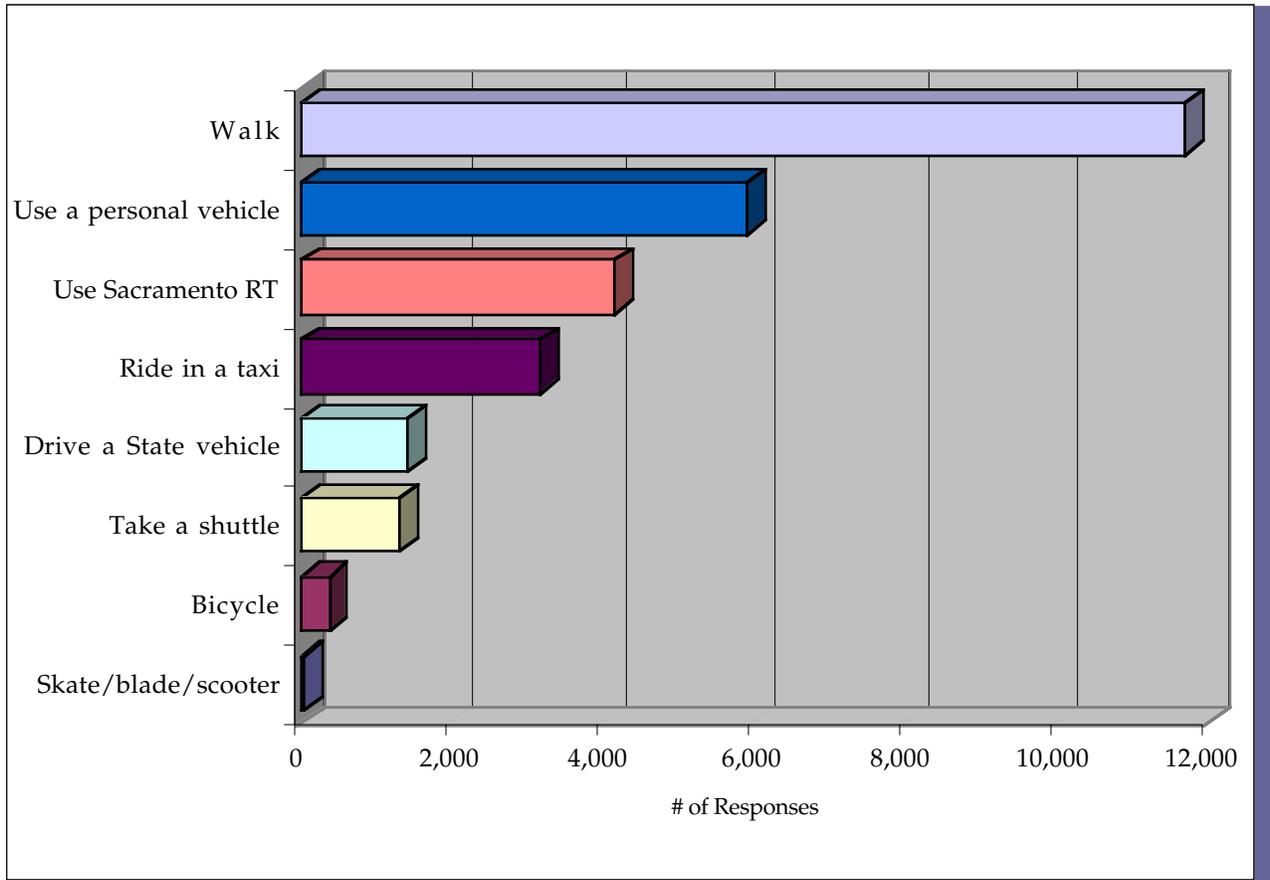
To help determine demand, the 2001 employee survey asked employees how often they traveled within downtown on a typical day for meetings, to run errands, etc. The response follows:

1-2 times per day	60%
Never	34%
3-5 times per day	5%
5-10 times per day	1%

¹ Mail and Internet Survey, The Tailored Design Method, Don A. Dillman, 2000.

The survey then asked how employees travel to their destination(s) in downtown Sacramento. The overwhelming number of employees walk to these midday destinations, followed by use of personal car, Regional Transit, taxi, State car, and shuttle. Approximately 38% of the weekday trips were made by car (whether personal car, State owned vehicle, or taxi).

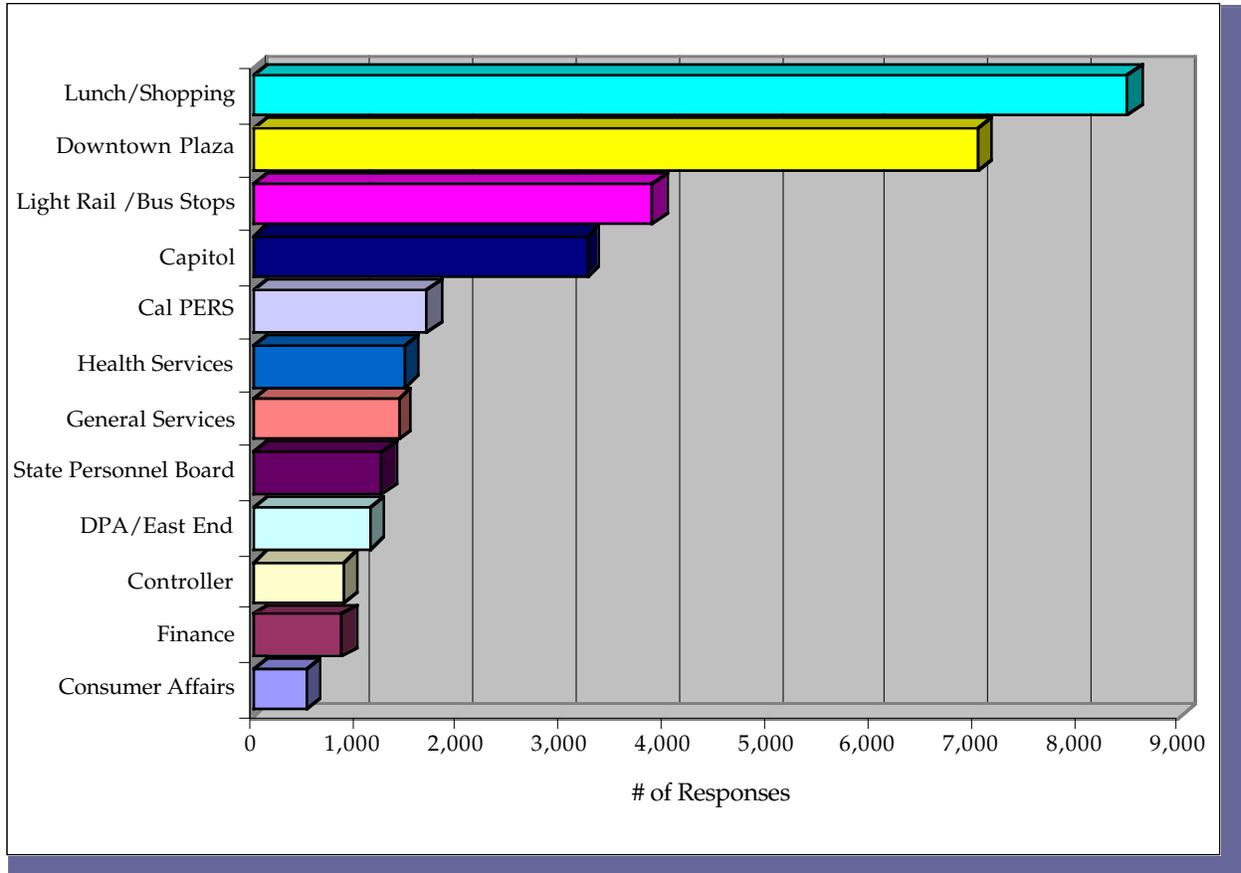
Figure 1
Mode of Workday Downtown Travel



Source: The Hoyt Company, 2001 Capitol Area State Employee Transportation Survey Results, August 2001.

The vast majority of these trips are for shopping and going to lunch. The survey found very little midday travel by employees between State office buildings. Of those that do travel to other State facilities during the midday, the State Capitol was the most frequent destination, but even the Capitol did not rank very high. Shopping and going to lunch were clearly the most prevalent trip purposes.

Figure 2
Desired Shuttle Destinations



Source: The Hoyt Company, 2001 Capitol Area State Employee Transportation Survey Results, August 2001.

Those who were willing to take a midday shuttle for their trip preferred not to wait more than five minutes for a shuttle vehicle (32%). Shuttle frequencies of up to ten minutes were acceptable to an additional 41% of employees. Shuttle experience in downtown Sacramento by RT and in South Natomas has found that frequency is a critical factor for midday service, especially when the primary trip purposes are shopping and lunch because the window of time employees have is usually limited (i.e., one hour for lunch). The South Natomas Transportation Management Association (TMA) operated a lunchtime shuttle for 18 months from April 1995 to October 1996 called the Commuter Scooter. In an analysis done by The Hoyt Company after the shuttle was discontinued due to low ridership, an employee survey found that employees did not have a long enough lunch break to travel to and from lunch via the shuttle. RT’s ridership history in downtown with shuttle operations has shown that cost and frequency are important factors.

Commuter Service

Data from the 2001 employee survey indicated that 69% of State employees would commute to work by public transit if there was a free shuttle to take them “directly to their work site.” The word directly, rather than within two to three blocks of their work site, is the key factor in this question. The ridership on the current WX Freeway shuttle indicates a demand for peak period shuttle service, with ridership especially high at stops at 13th/I, 11th/I, 10th/Q, and 8th/N Streets.

2.1 Existing State Shuttles

The State of California currently operates six shuttle routes in downtown Sacramento. Five of the existing service(s) are contracted with a private operator. They use a total fleet of 19 vehicles, 17 of which are diesel vehicles, and two are dual fuel (CNG and gasoline) vehicles. Three of the routes serve key State office buildings and the peripheral parking lots under the WX Freeway. A fourth route connects the Department of Health Services offices on Richards Boulevard with transit and offices in downtown. A fifth route connects CalPERS and the Department of Consumer Affairs with the light rail station at 8th/O Streets. A sixth route, which began operation in November 2001, connects the Ziggurat Building in West Sacramento with downtown Sacramento and key bus and light rail stops. (See Existing State Shuttle Routes Map, page 10.)

Five of the routes are fully funded by the State of California. The CalPERS/Consumer Affairs shuttle is financed equally by three entities: CalPERS, Thompson Diggs Building and 400 R Street (Consumer Affairs).

WX Peripheral Parking Shuttle(s)

The State of California provides very low cost parking to their employees in surface lots peripheral to downtown which are located under the WX Freeway/Capitol City Freeway. A total of 1,422 spaces are available to State employees (Lot 8: 617 capacity, Lot 38: 805 capacity). Currently the lots have a waiting list.

The State provides free, frequent shuttle bus service to these lots, connecting with most state office buildings. There are three separate routes, each of which operate primarily north and south. The three routes are: East Route (Lot 8), Central Route (Lot 38), and the West Route (Lot 38).

Service is provided 12 hours per day from 6:00 a.m. to 6:00 p.m. It operates every five to seven minutes in the peak periods (approximately 6:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m.) with 30 minute service in the off-peak.

Department of Health Services Shuttle

The Department of Health Service operates shuttle service between their offices in Continental Plaza on Richards Boulevard, the AMTRAK Depot, the Personnel Board (8th/Capitol Avenue), light rail (8th/O Street), the Twin Towers (8th/Q Streets) and the Thompson Diggs Building (3rd/R Streets).

The primary purpose of the shuttle is to carry employees in the DHS offices on Richards Boulevard to key offices and destinations in downtown Sacramento. Approximately 1,700 DHS employees are housed on Richards Boulevard. Based on the ridership numbers provided on page 8, it appears approximately 5% of employees use the shuttle on a typical day. It is possible the percentage of employees using the shuttle might increase with some of the recommendations found later in this report such as a higher level of marketing and operation of CNG vehicles.

The shuttle operates every 15 minutes from 6:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m. It operates every 30 minutes in the off-peak.

CalPERS/Consumer Affairs Shuttle

This light rail shuttle is contracted for by the owner of the 400 R Street Building (managed by Colliers International) under the Consumer Affairs lease. This shuttle was mandated by the City of Sacramento as a traffic mitigation measure for the original 400 R Street Building owner's building permit. Lincoln Plaza and the Thompson Diggs buildings became participants in the shuttle from the beginning because all three buildings in the area needed the service. They share the shuttle cost equally with 400 R Street. This shuttle serves the three buildings and it provides 15 minute service, timed to the 8th/O Streets light rail station schedule. Written concurrence from all the shuttle participants would have to be obtained, along with the contractor, to make any changes to the present service.²

The primary purpose of the shuttle is to make light rail a more viable transportation option by connecting employees with the 8th/O Street light rail station. Approximately 1,300 CalPERS and 1,100 Consumer Affairs employees are housed in the offices served by the shuttle. Based on the ridership numbers provided on page 8, it appears approximately 2.5% of employees use the shuttle on a typical day. It is possible the percentage of employees using the shuttle might increase with some of the recommendations found later in this report such as a higher level of marketing and operation of CNG vehicles.

Ziggurat Shuttle

Effective November 2001, the State added a new downtown shuttle service between the Ziggurat Building in West Sacramento, the light rail station at 8th/Capitol Avenue, and key Regional Transit and Yolobus stops in downtown Sacramento. The route was

²J. Parilo, CalPERS, August 30, 2001.

designed using information from the 2001 employee survey. The route travels along N Streets, 8th Street, L Street, and the Tower Bridge. Service is provided with Regional Transit's replica trolley buses, augmented with standard 30-32 foot coaches. The service is operational only in the peak periods and runs on five minute frequencies.

Current Ridership

Five of the existing State shuttle routes are operated by a private contractor (e.g., Amador Stage Lines, Inc.) and the ridership numbers are limited. The sixth shuttle (Ziggurat) is operated by RT. The ridership numbers that are available are listed below in Table 1:

Table 1
Available Shuttle Ridership Numbers

Route	Morning Peak Riders	Evening Peak Riders	DAILY RIDERSHIP	ANNUAL RIDERSHIP
East	325	301	626 ³	155,914
Central	293	278	571 ³	142,278
West	131 - 181	121 - 183	252 - 364 ⁴	91,000
DHS		52/day	170 ⁵	42,330
CalPERS/Consumer Affairs	66/day	36/day	118 ⁶	29,382
Ziggurat	60/day		120 ⁷	30,000
TOTAL			1,969	490,904

The highest utilized bus stops on the East Route are 11th/I Streets, followed by the stop at 13th/I Streets. The Central Route picks up the most riders at the stop at 10th/Q Streets, followed by 9th/K Streets and 9th/O Streets. The highest ridership on the West Route is at the new stop at 8th/N Streets which was implemented in May 2001, followed by 5th/P Streets.

A map of the six State shuttle routes is provided on page 10.

³ Calculations by The Hoyt Company, based on counts provided by Amador Stage Lines, Inc., September 28, 2001 for September 2000 to August 2001. Counts only include peak period ridership. Off-peak ridership has not been counted by Amador.

⁴ Calculations by The Hoyt Company, based on counts provided by Amador Stage Lines, Inc. 252 represents counts from September 2000 through April 2001; 364 represents counts from May to August 2001 which include new stops at 8th/N Streets and 3rd/Capitol Avenue.

⁵ S. Clark, DHS, September 12, 2001.

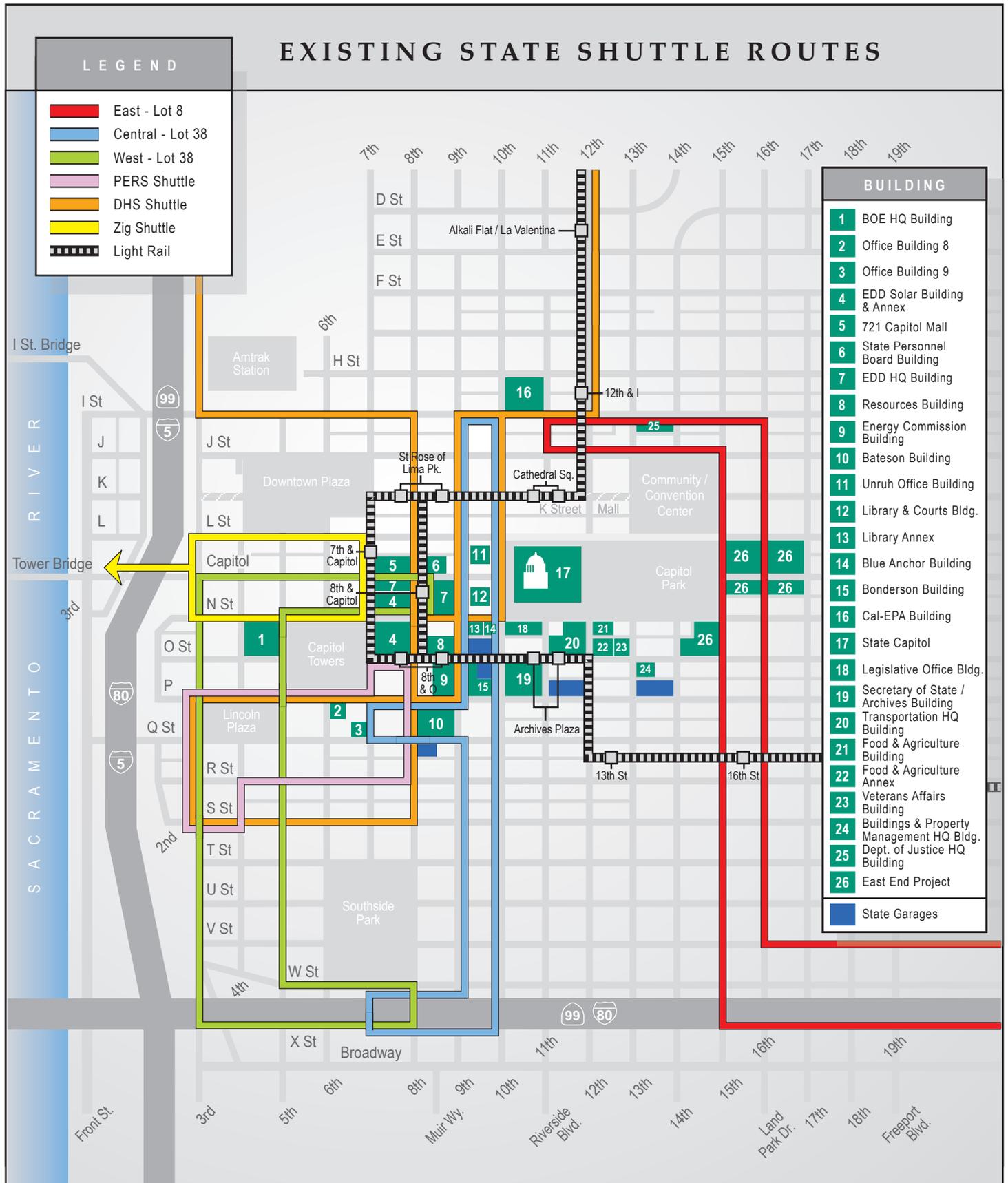
⁶ J. Parilo, CalPERS, August 30, 2001.

⁷ M. Fitzpatrick, Regional Transit, June 10, 2002.

Current Public Information/Outreach

Currently, the State does very little to market or promote their shuttle programs. The shuttle routes are not included on most State department websites. Until this report, there was no comprehensive map of all State contracted shuttles. (See Existing State Shuttle Routes Map, created by The Hoyt Company, page 10.) Individual shuttle route maps and transfer points are not provided to either RT or the suburban transit operators. Until January 2002, none of the shuttles were included in the RT Bus Book (the Ziggurat Shuttle was added in January 2002).

The peripheral State parking shuttles have individual time tables and maps, as well as one consolidated map (8 1/2" x 11"). Distribution of these materials has been sporadic, and there is virtually no marketing of the service. There is no comprehensive map or schedule for all of the State operated downtown shuttles, they essentially operate, and are marketed independently. In fact they are operated under separate contracts and are designed independently, in some cases to meet particular needs of individual departments. There is poor signage, if any, on the buses indicating the route/key destinations.



2.2 Non-State Funded Downtown Shuttles

Midday Shuttle - State Offices/Downtown Core

Currently, there is not a midday shuttle which operates with the intention of serving State employees' lunch time needs (although the WX Freeway shuttle operates during the lunch hour and may partially serve that market). Yet the 2001 employee survey results show that shopping is by far the single greatest midday trip purpose followed closely by going to lunch. From 1966 to 1998 there was a successful daytime shuttle (funded by the downtown Macy's) that took State workers from their offices south of the Capitol to the downtown retail core.

In 1966, Macy's first contracted with Regional Transit to provide a free lunch time shuttle between the State office buildings south of the State Capitol and the department store at 4th and L Streets. The service used different routes over the years, including a separate Weinstock's Shuttle that operated for many years until the routes were consolidated into a single free shuttle funded jointly by both stores. Once Macy's took over the Weinstock's store in Downtown Plaza in 1996, Macy's provided the full funding for the service. However, Macy's notified Regional Transit that it no longer intended to fund the service as of October 1, 1997.

This route was very popular. The service operated weekdays from 11:30 a.m. to 1:30 p.m., approximately every 7.5 minutes between 10th and N Streets and 4th and L Streets. During most of the year, the service carried an average of over 170 riders per day, and holiday season average ridership exceeded 210. In terms of passengers per hour (an RT evaluation criteria), the route was above the RT system average for the entire year of 1997, and, in the holiday season, it was among the highest in the system at over 50 passengers per hour.

Based on the ridership counts (assuming that each passenger made a round trip), 85-100 employees rode to Downtown Plaza each day. Therefore the cost was approximately \$1.30 per customer/employee. The route provided service to all of the stores and restaurants in Downtown Plaza, as well as the K Street Mall.

In the absence of funding from Macy's or another source external to RT, the service was discontinued on January 4, 1998.

K Street DASH

Regional Transit operates a shuttle east and west along the K Street Mall (from 13th Street to 7th Street) and on J and L Streets from Old Sacramento to the Sacramento Convention Center utilizing replica trolley vehicles. The trolley operates from 11:00 a.m. to 3:00 p.m. Monday through Friday every 15 minutes, and every 30 minutes on weekends. The service is paid for by downtown property owners such as the Esquire Plaza, Downtown Plaza, and others. In July 2001, RT eliminated the fare and made the shuttle free to all riders. Ridership immediately increased significantly and the shuttle currently carries 176 riders per day (prior to that time the shuttle cost was 50 cents per trip and the shuttle averaged 33 riders per day).⁸

⁸ M. Fitzpatrick, Regional Transit, September 13, 2001.

2.3 Public Transit to Downtown Sacramento

There are at least nine separate bus operators, plus AMTRAK (the Capitol Corridor commuter train) and Regional Transit light rail which provide daily commuter services to downtown Sacramento. (See map of Downtown Transit Services, page 13.)

The hub of the spoke transit system is Regional Transit with 75 bus routes and two light rail lines traveling in and out of downtown Sacramento. All RT buses operate on compressed natural gas. Average morning period weekday transit ridership into downtown on a typical workday is 9,222 which represents 18.2% of all public and private sector employees and visitors.⁹

The light rail and bus system, covering a 418 square-mile service area, includes 31 light rail stops or stations, nine bus and light rail transfer centers and ten free park-and-ride lots providing 4,153 parking spaces. This significant transit infrastructure investment is undergoing an 18.4 mile expansion with two additional light rail extensions to the east and south.

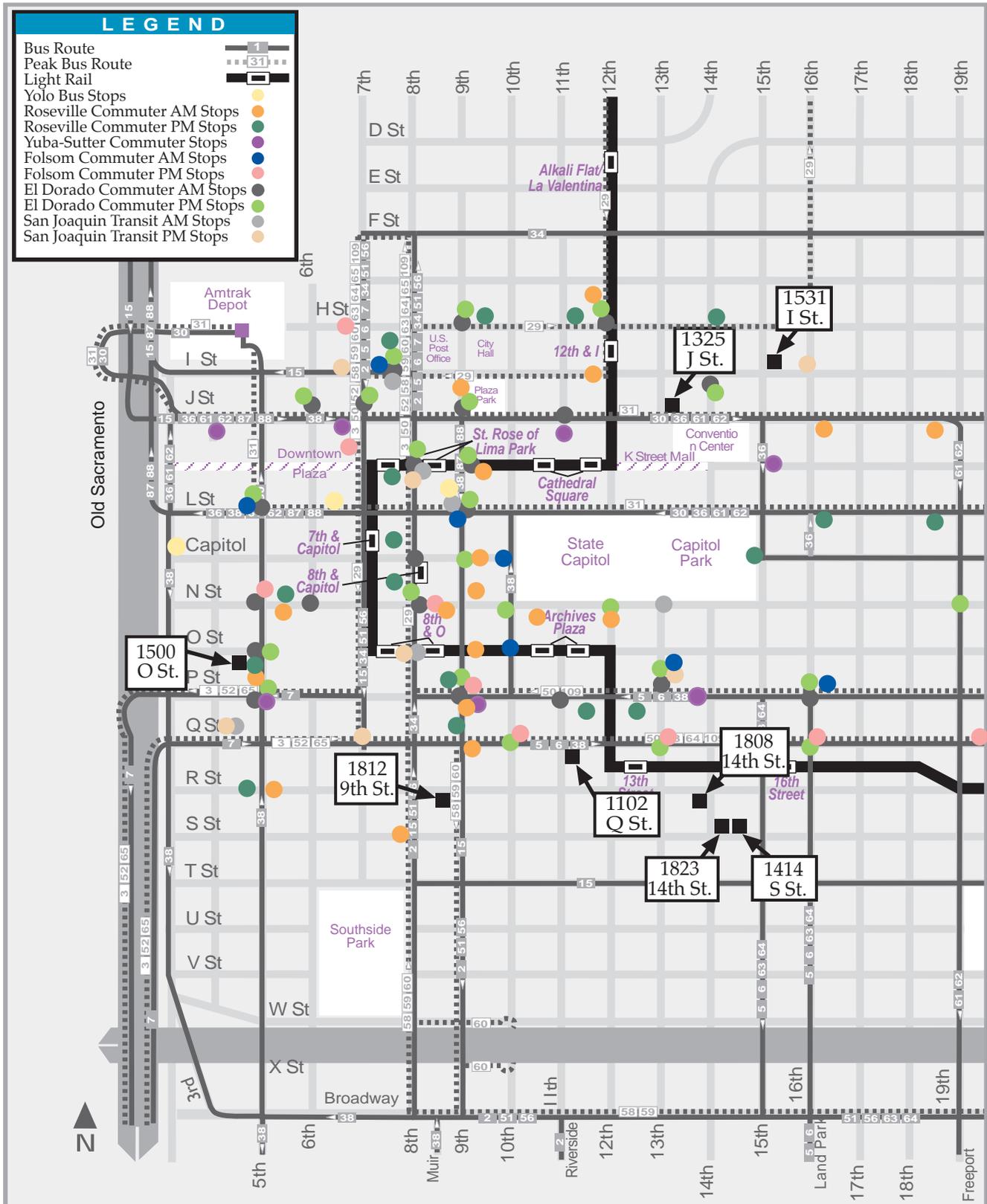
The southern light rail extension project adds a total of 11.2 miles of track to Highway 99 and Calvine Road. Project completion of phase one, a 6.3 mile section of light rail track, is scheduled for September 2003 with service to Meadowview Road. This project phase adds seven new stations and significant parking capacity for commuters. Preliminary Engineering and environmental analysis has recently begun on Phase II and is scheduled for completion in late spring 2003; with the commencement of rail service dependent on funding for construction and operation.

RT's Folsom extension to the east will add 10.9 miles to the light rail system, nine stations, and 14 new light rail vehicles. This extension project also adds light rail service to the AMTRAK Depot in downtown Sacramento. The Folsom extension broke ground in September 2001 and is scheduled to be operational in late 2003 to Sunrise Boulevard and late 2004 to downtown Folsom. The .9 mile extension from the K Street Mall to the AMTRAK Depot is scheduled for completion in 2004/5.

The State 2001 employee survey indicated that RT ridership was the predominate transit resource for commuters. Transit usage on RT was 78.8% of all transit options (21.47% of all commuters) according to the 2001 survey.

⁹ A. Doherty, Regional Transit, September 30, 2001.

Downtown Transit Services



2.4 Milestones for Downtown Transit

There are several roadway or transit milestones that should happen within the next 18 months. The following table provides a listing of a few of these measures and their scheduled completion/operation date.

**Table 2
Downtown Transit Milestones**

Milestone	Jan. 2002	Spring 2002	Summer 2002	Fall 2002	Mar. 2003	Jan. 2004	Sept. 2003
RT hearings on South area/ downtown bus services	*	*	*	*			
DOE moves to East End			*				
CalPERS Shuttle to Pioneer Bridge (due to construction)			*				
RT takes over WX Shuttles						*	
DHS begins move to East End					*		
New LRT to Meadowview opens							*
RT Buses change in Downtown (due to LRT open)							*
7th Street Construction (RT layover moves to 9th/10th St.)			*	*	*	*	*
			(Starts)				7th Street open to Richards Blvd. (2004)

3.0 COMPREHENSIVE CAPITOL AREA SHUTTLE

3.1 Overview Of Existing Routes Versus Identified Needs

As discussed in Section 2.1, there are six shuttle routes that are currently operated by the State. These consist of three WX Peripheral Parking Shuttles (East – Lot 8, Central – Lot 38, and West – Lot 38), and three shuttles oriented to State offices located outside the Capitol Area: DHS (Richards Boulevard), CalPERS/Consumer affairs, and DGS (Ziggurat Building in West Sacramento). The six shuttle routes are estimated to carry about 1,921 riders each weekday.

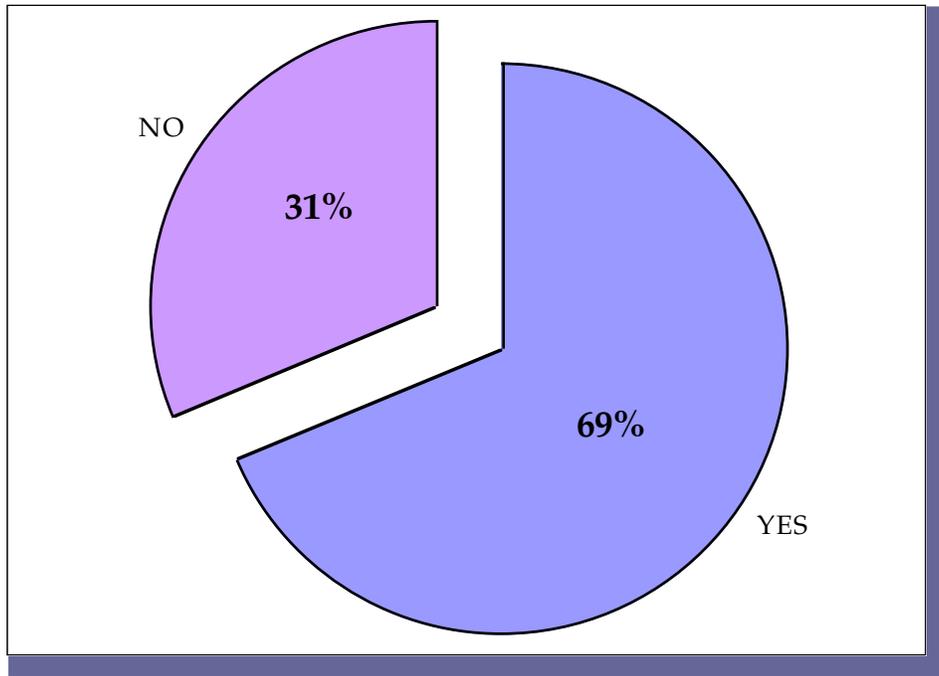
Each shuttle operates a different level of service, ranging from all-day service (including five minute headways throughout the peak) to peak-only service (at 15 minute headways). These services are contracted largely with private operators and operate independently. There is no consolidated identity, map or schedule for the current existing State shuttles.

While the shuttles do not offer a coordinated system of services, they do serve several of the major State destinations that are not in the Capitol Area. These areas, and the shuttle they are served by, are as follows:

Northwest (Richards Boulevard)	DHS Shuttle
North (CalEPA and Department of Justice)	Lot 8 Shuttle
Central (EDD)	DHS Shuttle
East (Future East End project)	Lot 8 Shuttle
Southeast (Peripheral Lot 8)	Lot 8 Shuttle
South (Peripheral Lot 38)	Lot 38 West and Central Shuttles
Southwest (400 R Street, Lincoln Plaza)	CalPERS/Consumer Affairs Shuttle
West (DGS)	Ziggurat Shuttle

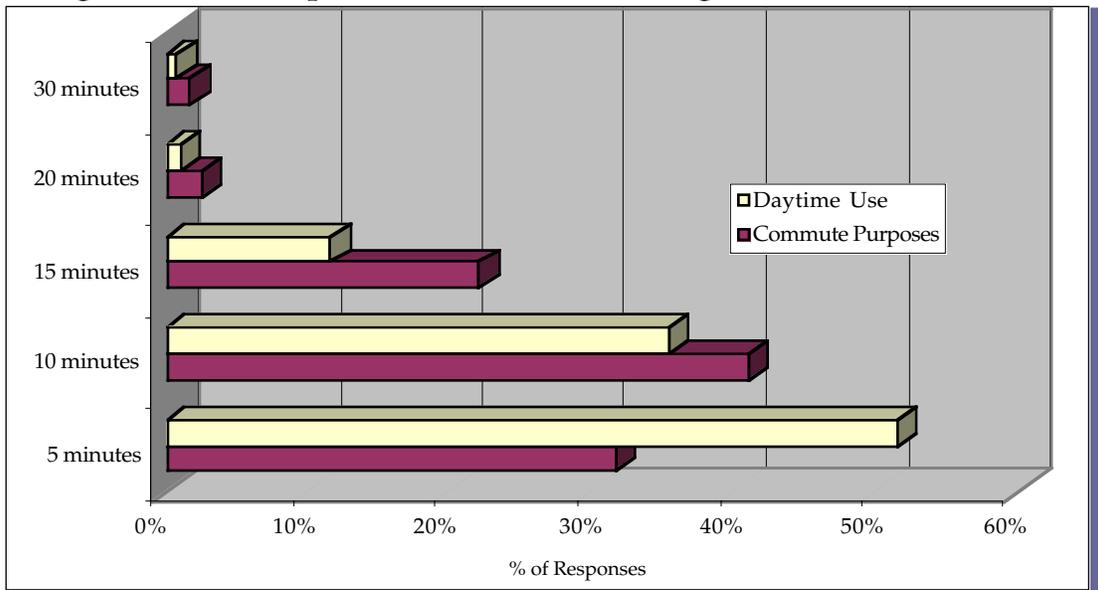
Unfortunately, with inconsistent levels of service the shuttles do not provide all the physical connections that State employees need to make them more convenient. For example, several of the current routes lack important connections with the core of the region's transit services (in the area of 7th/8th/Capitol Avenue) and the Capitol itself. In the 2001 employee survey, 69% of respondents indicated that they would use public transit to commute if a free, direct shuttle were available to their worksite. In addition, a substantial number of employees would take a shuttle for midday work and personal travel, if convenient services were available. The survey results indicated employees would be willing to wait for five to ten minutes for a shuttle during the commute period or midday, with wait time being most critical for midday users.

Figure 3
Respondents Who Would Use Transit With Free Shuttle to Worksite



Source: The Hoyt Company, 2001 Capitol Area State Employee Transportation Survey Results, August 2001.

Figure 4
Length of Time Respondents Would be Willing to Wait for a Free Shuttle



Source: The Hoyt Company, 2001 Capitol Area State Employee Transportation Survey Results, August 2001.

3.2 Options For Comprehensive Shuttle Service

Ideally, a comprehensive shuttle system would provide direct and frequent connections between the key public transit core/Capitol Area and all of the major remote State employee locations in the downtown area. The 2001 employee survey did not show a high demand for services other than to the core Capitol Area (i.e., Downtown Plaza, lunch and shopping). Therefore, while the shuttle system could ideally make it possible to travel between any pair of remote locations, this should be treated as a secondary consideration.

Option #1 Incremental Changes

Given the history of the various shuttle routes as relatively independent units, with independent funding sources, one approach to developing an improved system would be to make minor changes to the existing routes. In this way, it would be possible to address the identified needs without changing all the existing institutional arrangements or unnecessarily impacting current ridership.

One of the highest priorities for the shuttle system is to provide service to connect the new East End project to the public transit core and State or Capitol Area. The East End project, currently under construction, will house an estimated 6,000 employees when completed. The Department of Education is scheduled to move in Summer 2002, and the Department of Health Services is scheduled to begin moving in March 2003.

It is interesting that, although this area has not yet been developed as a major State employment area, it already is well-served by an existing shuttle route, the Lot 8 Shuttle; operating every five minutes during commute hours and every 30 minutes in the midday along 15th and 16th Streets. This shuttle is designed to bring commuters from the peripheral lot under the WX Freeway at 23rd Street into downtown. With a minor extension, however, it could also provide a five minute shuttle from the core Capitol Area to the East End for employees who use express buses operated by Regional Transit and other regional carriers. The route already connects to light rail from the east (and south) at the 16th Street Station, and from the north at the 12th and I Street Station.

An extension of the route from its current endpoint at 11th and I Streets, west to 7th Street, south to N Street, and east to 10th Street would provide the missing link to the regional commuter bus services, in addition to other Capitol Area offices. (See Possible Shuttle Routes - Option #1 Map, page 20.) The current route is provided by five or six buses in the peak and one bus in the midday, operating on a 22-minute loop. The extended route would be a 30-minute loop, requiring seven buses in the peak and two buses in the off-peak. This would provide five minute peak (and 20 minute off-peak) headways over the entire route, with one to two additional buses in the peak and one added bus in the off-peak.

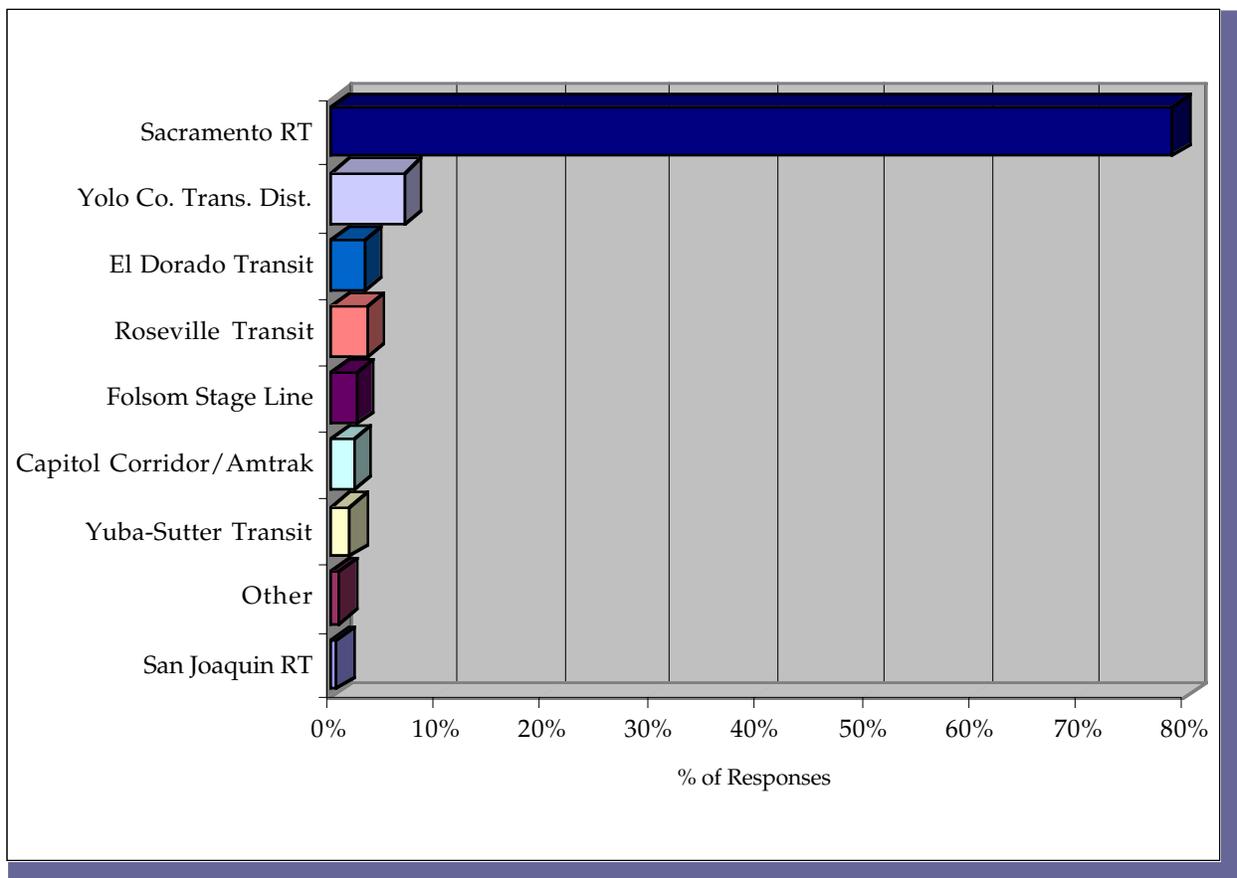
The route would have several benefits. It would compliment the current Lot 8 ridership pattern by having full buses in, what is now, the low ridership direction (toward Lot 8

in the morning and toward downtown in the afternoon). The route would make Lot 8 more attractive to commuters with destinations in the core area, while maintaining the same travel times for current peripheral parking lot customers. It would also increase midday frequency from every 30 minutes to every 20 minutes.

A cost estimate developed for this extension showed a relatively low incremental cost of \$200,000 to \$300,000 annually for this high a level of service.

A second priority for improved service is to provide better connections to the AMTRAK Depot at 4th and I Streets, which, with added Capitol Corridor service, is slowly becoming more of an intermodal hub. The Capitol Corridor service is the third busiest commuter rail service in the country with over one million annual riders. In Fiscal Year 2000-01, Capitol Corridor ridership grew a phenomenal 41%.¹⁰ The 2001 employee survey found that 2.2% of State employees utilizing public transit to get to work, did so via the Capitol Corridor/AMTRAK service.

Figure 5
Public Transit Operators



Source: The Hoyt Company, 2001 Capitol Area State Employee Transportation Survey Results, August 2001.

¹⁰ Capitol Corridor Business Plan, February 2002, page 8.

On November 20, 2001, DGS staff and The Hoyt Company attended a meeting of SACOG's Transit Coordinating Committee (TCC). The TCC meets quarterly to address transit service, planning and operational issues. All of the region's transit operators are encouraged to attend (e.g., Roseville Transit, Folsom Stage Line, Yuba-Sutter Transit, Paratransit, El Dorado Transit, RT and several others). The Hoyt Company made a presentation to the TCC regarding the DGS Comprehensive Shuttle Program and a discussion was held. (See Appendix A for meeting notes.)

It should be noted that at the TCC meeting operators were asked if they intend to serve the future Intermodal Facility at the current AMTRAK Depot. The response from almost all of the operators was that they would not serve the future Intermodal Facility, as it is "too remote" and should their riders need to transfer at the Intermodal Facility from their buses to a State Shuttle, they would lose ridership due to the added inconvenience.

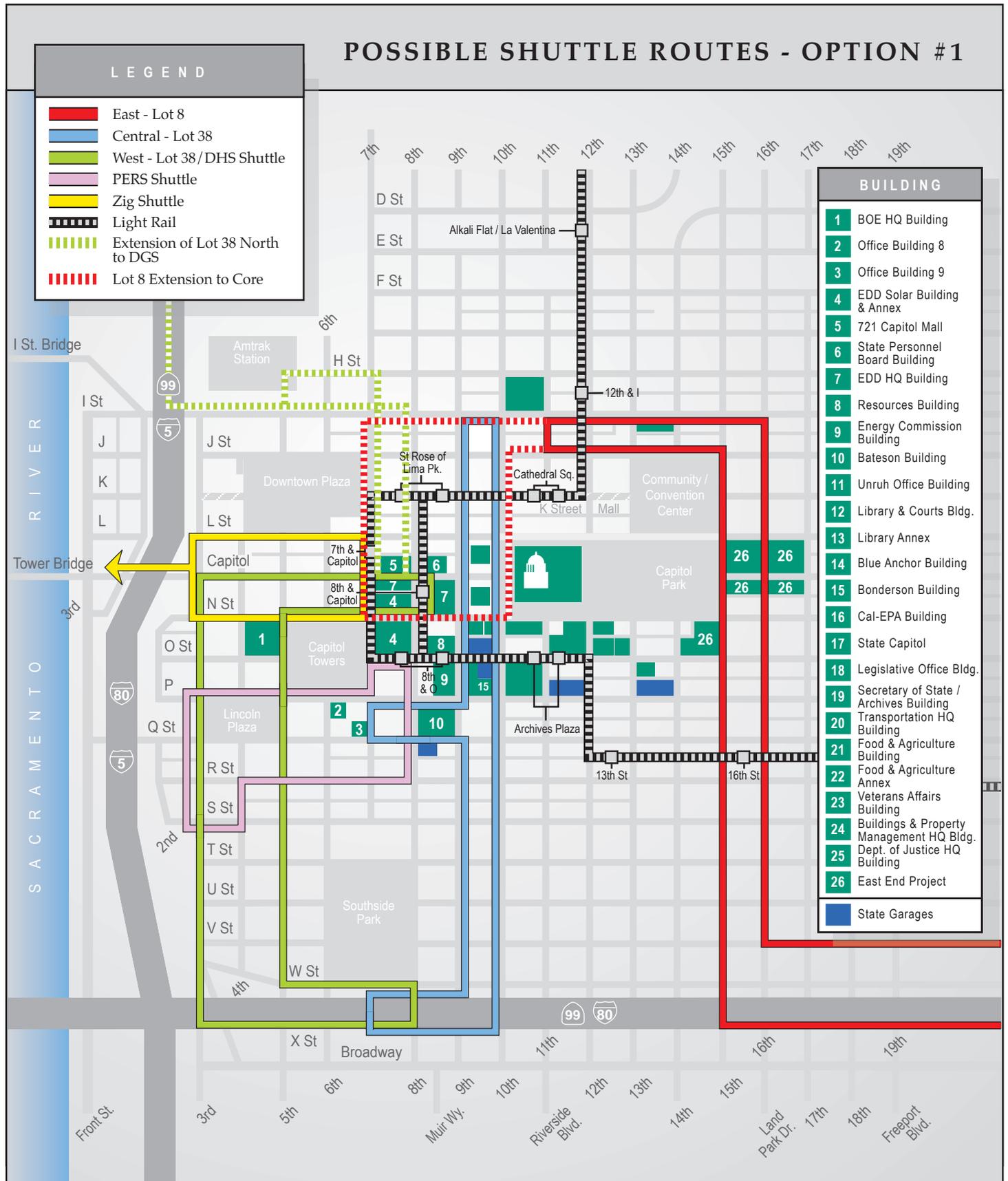
None the less, better connectivity with the AMTRAK Depot is important due to State employees commuting from the I-80 Corridor.

The existing DHS Shuttle provides limited service to the AMTRAK Depot but is not designed for use by train commuters. In addition, there is considerable overlap between the services provided by the DHS Shuttle, the CalPERS Shuttle, and the Lot 38 West Shuttle.

In order to improve the connection to the AMTRAK Depot and gain some cost savings, it is recommended that these routes be consolidated into one shuttle route, primarily via the Lot 38 route extended on 7th and 8th Streets to I and J Streets, to serve the AMTRAK Depot and then via I-5 to Richards Boulevard. This service would maintain the high peak frequency and limited midday service of the peripheral lot shuttle at least as far as the AMTRAK Depot, with at least current service levels provided to Richards Boulevard. It should be noted that construction is anticipated to begin in the next couple of months to extend 7th Street to Richards Boulevard. Once the extension is complete, the shuttle can connect with Richards Boulevard via 7th Street (rather than with I-5).

The consolidated shuttle would provide improved overall connections and higher ridership. The cost per rider would be lower than the cost per rider of shuttles currently operated independently.

With these changes, illustrated in Possible Shuttle Routes - Option #1 Map (page 20), the existing shuttle system can be incrementally adjusted to provide reasonable coverage to serve all major destinations, at relatively low cost. However, to gain the full benefit of these shuttle services, a comprehensive and unified marketing approach is critical. If all State employees are aware of the availability of these services (including schedules, routes, and the fact that these services are free to all State employees), their use will grow dramatically. A comprehensive marketing approach could include signage at stops and on buses, attractive printed material, available web pages, included in the RT Bus Book and suburban operator schedules, etc. (See Section 4.0 Public Information/ Outreach, page 32.)



Option #2 Re-Design of Services

A more complete and comprehensive re-design of the State's shuttle service could expand on a unified marketing approach by simplifying the system and improving its user-friendliness. The tradeoff is that, the easiest way to simplify the routes is to reduce the number of distinct routes. This has the potential for two negative impacts. Either there will be more areas without close service or the routes could be very circuitous to try to serve many destinations with fewer routes.

Conceptually, there are two general approaches to shuttle design. One approach is to operate the shuttles as loops, trying to tie together as many of the non-core points as possible. A second approach is to operate them as trunk lines, intersecting at the core area.

Based on the 2001 employee survey results, there is limited demand for non-core-oriented service; therefore a simple loop would not seem to be appropriate. Perhaps a figure "8" may be a feasible way to combine the loop and trunk line concepts. In general, one east-west and one north-south oriented route would be ideal, if all the destinations could be reasonably served.

For example, the West Shuttle (Ziggurat Shuttle) and East Shuttle (Lot 8) could be combined into one route. This could travel between the Ziggurat Building as the west loop and the East End (and Lot 8) as the eastern loop with the core served directly from both areas. The potential to combine these routes may be limited as the funding for the Ziggurat Building is unique to that building and cannot be mixed with other DGS Shuttle funding sources. Similarly, the north-south route would cover Lincoln Plaza and Lot 38 in its south loop and AMTRAK/Richards Boulevard in its north loop. Under this scenario, the Central Shuttle area would continue to be served by the Lot 38 Shuttle. As a result, it may be necessary to have three distinct routes.

Another option for combining routes would be to operate the Lot 38 West and Central routes as a combined route, both with a southern terminas at the parking lot and northern terminas at the AMTRAK Depot. This would allow for full coverage of the current destinations, as well as excellent connections to AMTRAK. However, this would then require a separate shuttle for the Richards Boulevard area, cutting off some of the DHS facilities from a single shuttle.

With the opening of the 7th Street Extension to Richards Boulevard (anticipated in 2003/2004), a three-route system may be a good option. For example, the Central route could be extended to the AMTRAK Depot via 9th and 10th Streets and I and H Streets, while the West route would go directly north to Richards Boulevard via 7th Street.

The Possible Shuttles Route - Option #2 Map (see page 23) shows a new shuttle system concept to serve State Employees and the general public. It consists of two primary routes which serve virtually all major state destinations. In addition to the two basic routes, the current Lot 38 Central Shuttle is recommended to remain, primarily to serve current peripheral parking lot patrons.

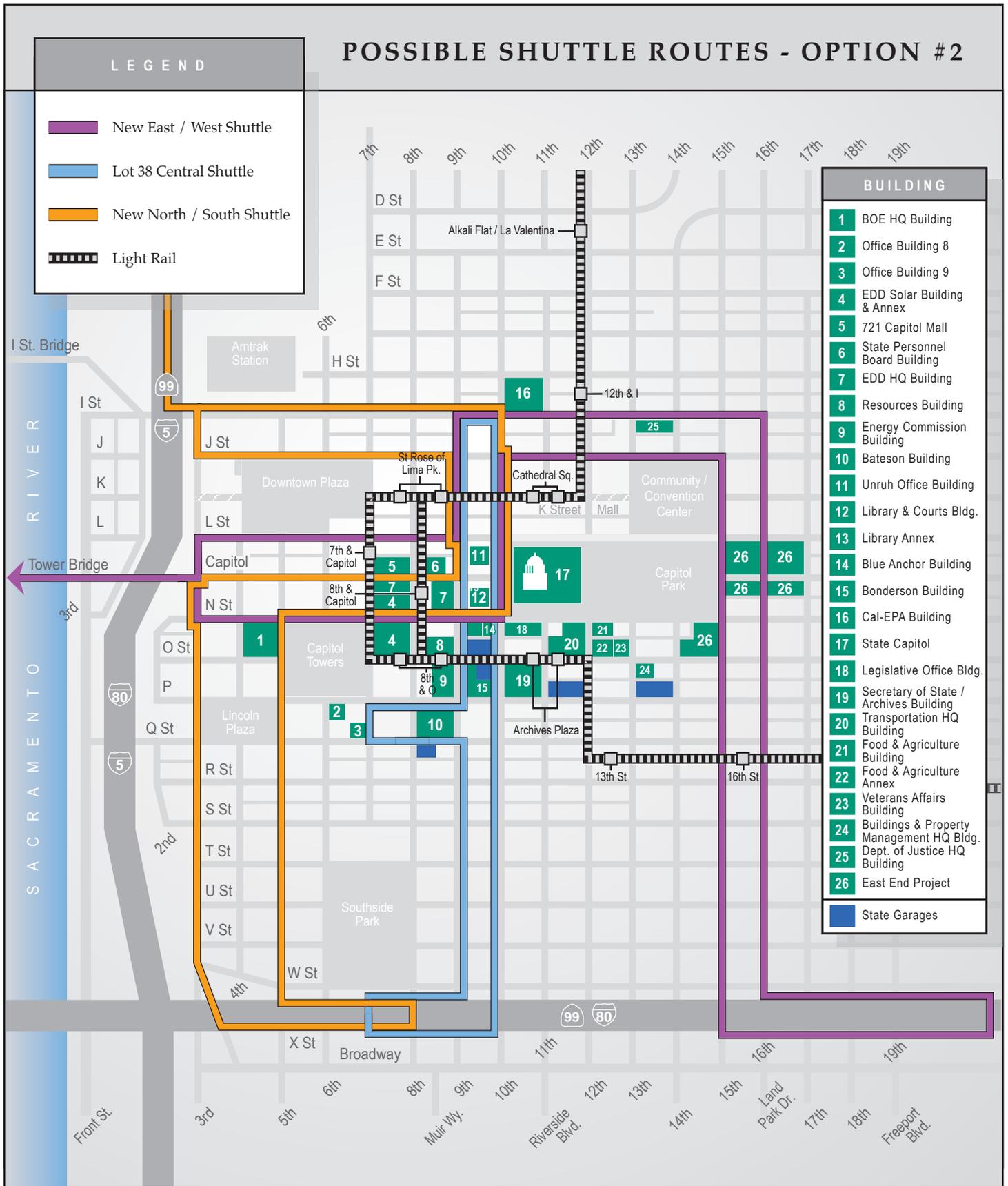
One route would have an east-west orientation, serving Lot 8, the East End project, Cal EPA, the State Capitol, and the Ziggurat in West Sacramento (southeast, east, north, and west destinations, as described earlier). The second route would serve Lot 38, 400 R Street, Lincoln Plaza, State Capitol, AMTRAK Depot, and Richards Boulevard (south, southwest, and northwest destinations). The routes would overlap in the Capitol core area, providing for easy transfers for traveling between locations not served directly by one route.

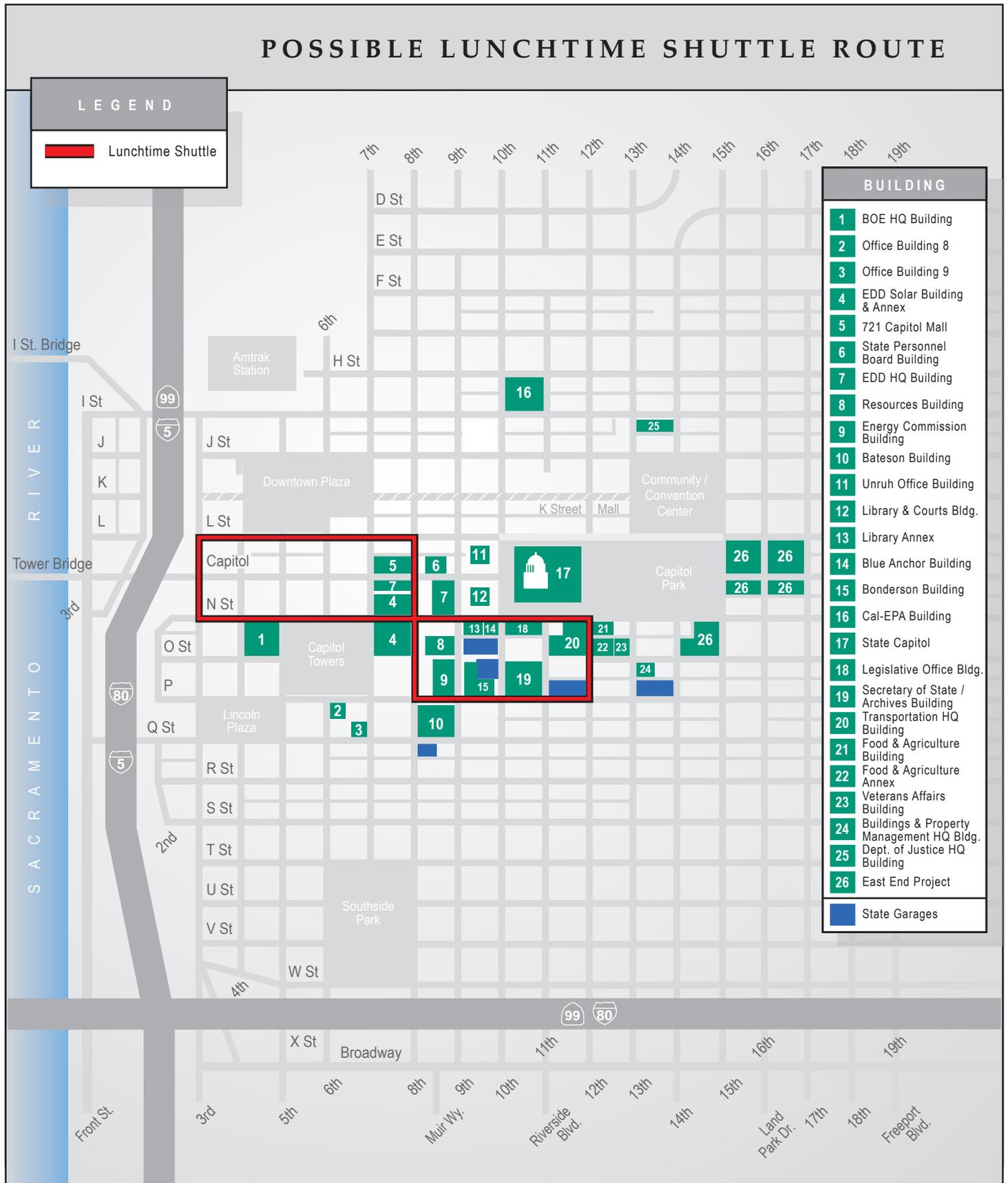
The two routes, described above, do not provide a direct route to the core area for Lot 38 customers that is currently available with the Central Shuttle. This route would continue to operate in the peak periods, but may no longer be necessary in the midday.

One area that would not be directly served by this proposed State shuttle system is the offices south of the Capitol in the area bounded by 11th/N/13th/P Streets. This area is not currently served by shuttle services. It is very well-served by the RT light rail line, which will be running at seven minute - headways with the opening of the South Corridor service in September 2003. The availability of this frequent service to the rest of the core area makes it somewhat duplicative to also have a dedicated shuttle bus. With the contractual relationship between the State and RT, an arrangement may be possible for State employees to ride in the core area (16th to 12th Streets/I Street) at no fare during weekday off-peak hours. This possibility could be explored further with Regional Transit.

The proposed State shuttle system includes longer connected routes that provide some improved efficiencies and direct connections to some areas; however, the disadvantage is that the proposed shuttle routes introduce some reliability issues. For example, the east/west route includes the Tower Bridge, which could go up and affect the schedule of the entire route. Similarly, the north/south route could be affected by congestion on I-5. These routes could require more supervision than the current shorter routes in order to maintain the scheduled frequencies.

This proposed shuttle system is designed to be funded at approximately 35% more than the cost of the six shuttle routes currently being provided by the State. The number of buses required should be approximately the same as the current system. The new system provides equivalent or better service to all the locations currently served, with five minute peak headways maintained through the downtown. In addition, it incorporates the East End project into the system and provides for direct connections between more destinations throughout downtown Sacramento.





Midday Shuttle - State Offices/Downtown Core

There is one final area of shuttle service that should be considered. Currently there is not a midday shuttle which operates with the intention of serving State employees' lunch time needs yet the employee survey results show that shopping is by far the single greatest midday trip purpose, followed closely by going to lunch. From 1966 to 1998 there was a successful daytime shuttle that took State workers from their offices south of the Capitol to the downtown retail core.

This route was very popular and carried an average of over 170 riders per day, and holiday season average ridership exceeded 210. The cost was approximately \$1.30 per customer/employee. The route provided service to all of the stores and restaurants in Downtown Plaza, as well as the K Street Mall.

The State, working in partnership with Regional Transit and the private sector, may want to explore the feasibility of reintroducing this midday shuttle service with private funding. The Westfield Downtown Plaza, Downtown Sacramento Partnership and others could be approached with the low cost and high ridership figures from the previous service, as well as the strong desire for shuttle service to the K Street Mall area identified in the 2001 employee survey, in hopes of re-instituting this service at the expense of the private sector.

3.3 Criteria and Service Parameters for the Comprehensive Shuttle

When the State begins to solicit or negotiate with an operator(s) to operate the new Comprehensive State Shuttle System they should keep in mind certain criteria and service parameters. The following list, although not exhaustive, provides a guideline of service parameters to consider when researching service operators; however, at a minimum, the following should be included in any request for bid:

Service Parameters

1. Requirement that all vehicles be low emission vehicles such as Compressed Natural Gas, electric, etc.
2. Start-up date for service.
3. Duration of contract, option(s) for extension(s).
4. Window of service - Start and end times.
5. Days of service - Noting of State holidays and other days for which the State requires no service (or a reduced service level).
6. Procedure and frequency of opportunity to modify service when needed.
7. Routing - Exact routing of the each route and identification of all bus stops. Note any key stops or buildings which are not subject to change by the operator without prior approval.
8. Service level - Example, five (5) to seven (7) minute service in the peak periods (6:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m.) and 30 minute service in the off-peak.
9. Vehicle type - Seating capacity, length of vehicle, etc.
10. Fare policy - The service is free for State workers (Will they show a transit pass or State ID?). Who decides about members of the general public utilizing the service - the State or the operator?

11. On-time performance standards - For example you may want to require that no bus be more than one minute early or five minutes late.
12. Cost.
13. Operational parameters - i.e., When do you add buses (perhaps when you reach standing room only?), availability of reserve vehicles, etc.
14. Ridership counts - Specify how often ridership figures need to be provided.
15. Head signs - Size, color, and type size of head signs and other identification on the buses to indicate shuttle route/name.
16. Marketing of service - What are the State's responsibilities for marketing the service? What are the operator's responsibilities for marketing the service? Production and distribution of a shuttle schedule (and how elaborate) is an example of a marketing issue.

3.4 Benefits of the State Shuttle System

A well thought out comprehensive shuttle program for State employees in the downtown area can have significant benefits for the employees, the immediate community and the region.

Improved Mobility

State employees benefit through improved mobility. Currently, the State contracted shuttles carry approximately 1,921 riders a day. The recommended comprehensive shuttle is expected to carry approximately 55% more riders.

Many State employees commute to their jobs in the heart of downtown. The shuttle system serves both commuters who drive to the peripheral parking lots and take the shuttle to their final destination, and commuters who commute to work via public transit and then take the shuttle to their final destination. Regional or suburban transit operators typically prefer to serve a limited number of key stops in the downtown, and then quickly return to their origin in order to bring in another bus load of commuters. They tend not to want to have a large number of stops within the downtown as it increases their trip length and costs.

For example, several operators have experienced increased demand for services from employees who work in the CalEPA building at 10th and I Streets. State workers have asked the suburban operators to take them directly to the CalEPA building, rather than to drop them off a couple of blocks away. It is reasonable to expect similar demands for service to the new East End project. A comprehensive shuttle program could be the local circulator component in the regional transit system, allowing operators to drop riders off at key shuttle stops (and light rail stations). This is even true to some degree for Regional Transit. Although they operate far more service, and more localized service, even RT cannot provide door to door service to all State office buildings. This partnership between the suburban operators and the State shuttle system could increase mobility for State employees.

The 2001 employee survey found that 66% of employees travel within the downtown on a typical workday at least once or twice per day. For employees needing to travel to

other agencies, to meetings in other State buildings, or simply to run errands on their lunch hour, convenient free shuttle service is an important amenity. The shuttle service has the potential to increase mobility, and if properly promoted, to reduce the need for and cost of the taxi services within the downtown.

Increased Transit Ridership

The State shuttle increases transit ridership in a number of ways. Extending the public transit system to serve various State offices, it makes the combined transit and shuttle system a more viable option for commuting employees. The shuttle also provides an important function for employees to run errands or go to lunch in the midday. The midday option for mobility allows employees to leave their cars at home and commute to work via public transit. The shuttle will help to eliminate the need for employees to run errands using their own cars.

Highest and Best Use of Land

The State shuttle reduces the demand for parking on prime downtown real estate in two ways. First, State employees who take public transit and the shuttle to commute to and from work do not need a parking place. Second, employees who park in the peripheral parking lots and then take the shuttle, park on the fringe of downtown under the freeway. In both cases the need for parking in the core of the Capitol Area is reduced, thereby freeing up land for State office or residential development. The shuttle allows for the highest and best use of the land in the Capitol Area by reducing the need for parking lots, and by allowing the parking that is needed to be located on less desirable land outside the downtown core.

Air Quality Issues

Sacramento's air quality plan for attaining the federal standard for ozone requires considerable ROG and NO_x emission reductions. The California Air Resources Board (CARB) identified particulate emissions from diesel engines (diesel particulate matter (PM)) as a toxic air contaminant in August 1998. According to CARB, diesel PM constitutes almost 70% of the total cancer risk from toxic air contaminants.

The State of California is very committed to helping to address the Sacramento region's air pollution and traffic congestion problems by promoting a variety of alternatives to the single occupancy vehicle (SOV), including the comprehensive shuttle program, for both commuter and midday travel.

For every trip made within downtown on the shuttle, that would have been made by an automobile, emissions are reduced. Currently, State employees use private taxi services, State vehicles, and private automobiles to get around downtown to attend meetings, run errands, etc. The shuttle has the potential to reduce automobile use within downtown and thereby reduce emissions.

Five of the current shuttle routes contract with private contractors to provide this service. Presently, all of the private contractor's shuttle buses are diesel powered with

the exception of the two buses that serve DHS on Richards Boulevard. The two buses that currently serve the DHS on Richards Boulevard are dual fuel buses (gasoline and compressed natural gas), they primarily operate on gasoline. The other private contractor shuttle buses are diesel powered. The oldest vehicle was manufactured in 1980; the newest is a 1997 model year. The average age of the fleet is eight years old. The privately contracted shuttle services operate with 19 buses.¹¹ The Ziggurat shuttle, contracted through RT uses CNG buses. It is important that the Comprehensive Capitol Area Shuttle System utilize a cleaner fuel technology such as compressed natural gas (CNG) to reduce air pollution. Assuming that continuing the current shuttle service would mean the continued use of older diesel buses, the following air quality benefits would not be achieved.

Replacing older diesel buses with cleaner buses can significantly cut emissions. Assuming the same yearly bus vehicle miles traveled (VMT), a CNG bus would reduce NO_x emissions by about one-half (and NO_x emissions from older, e.g., 1980 buses, by over 70%). It would also reduce toxic diesel particulate emissions by 95%.¹²

Reducing vehicle trips by providing shuttle services can produce an additional emission reduction benefit. The shuttle service provides a necessary link from transit stops to the workplace, and an enhanced system can further reduce short midday vehicle trips. (If one-quarter of the new daily shuttle riders, about 1,000, are replacing a short car trip (1.5 miles) with a shuttle trip, about half a ton of smog forming emissions would be reduced each year).¹³

Additional air quality benefits would be achieved for each SOV commuter who converts to public transit due to increased connectivity provided by the shuttle.

The most significant air quality benefit would be to operate the shuttle with electric vehicles, however at this time no operator in the Sacramento region has a fleet of electric buses.

Assumptions used in this analysis:

- Current diesel buses (even newer ones) emit about 20 grams per mile of NO_x. A cleaner bus, at 2.5 grams/bhp-hr*NO_x, emits about 10-11 grams/mile of NO_x.
- Current diesel buses (without after-treatment) emit about 0.5 gram/mile of toxic diesel particulates. A CNG bus emits about 0.025 gram/mile PM.

Cleaner vehicles could be CNG, Liquid Natural Gas (LNG) or new cleaner diesel with after treatment technology.

The heavy duty engine standard that goes into effect in October 2002, will require 2-2.5 grams/bhp-hr NO_x, and 0.05 gram/bhp-hr PM.

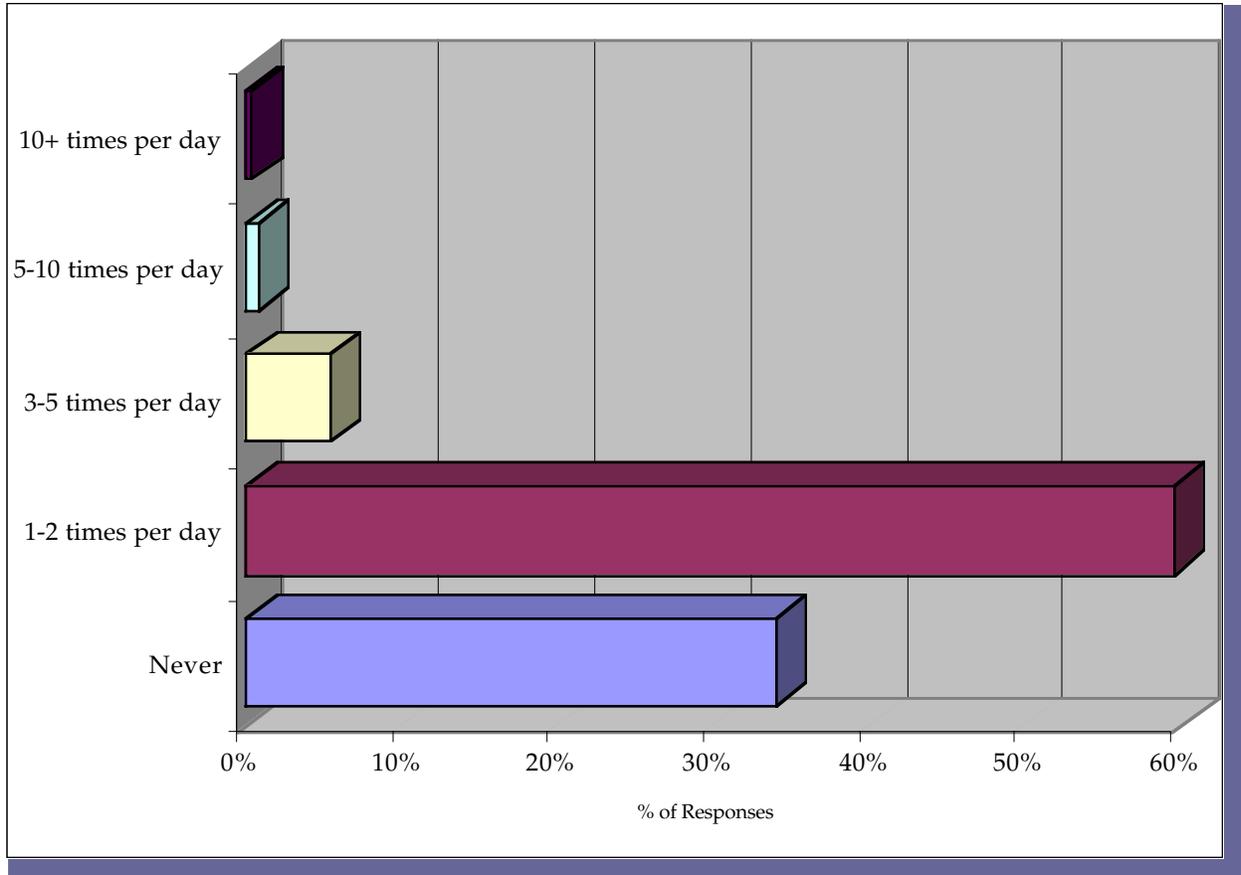
*grams/bhp-hr=grams per brake-horsepower-hour.

¹¹ K. Sanders, Amador Stage Lines, February 21, 2002.

¹² California Air Resources Board Transportation Strategies Group, February 21, 2002.

¹³ Ibid.

**Figure 6
Travel During the Workday**



Source: The Hoyt Company, 2001 Capitol Area State Employee Transportation Survey Results, August 2001.

Shuttle Convenience and Congestion Management

By improving mobility the shuttle system will increase employee convenience. The shuttle will extend the reach of the public transit system, provide an alternative to driving or taking a taxi, and provide shuttle services closer to final destinations.

The current six independently operated State shuttle routes in the Capitol Area carry approximately 1,921 riders per day and 478,904 riders per year. (See Table 1, page 8). If the recommendations to redesign the shuttle system and to aggressively market it are implemented, congestion could be reduced in the downtown area. Order of magnitude ridership projections indicate as many as 2,800 employees may use the shuttle daily. It is difficult, if not impossible, to estimate how many shuttle users would make the trip by taxi or automobile if the shuttle service was not available.

3.5 Preliminary Ridership Estimates

Based on the improved service and the coordinated marketing program, we looked at modest increases in route productivity that then translated into ridership estimates. We estimate an increase from about 1,969 current daily riders to 3,000 with the new system, an increase of 55%. That results in a decrease in the average cost per rider from \$3.76 to \$3.33, which is 11% less than the current cost.

The increased ridership is due to several factors including:

- Increase in connectivity, new destinations served,
- Increase in midday service levels (primarily to CalPERS and the Ziggurat Building),
- Coordinated shuttle system (versus six independent routes),
- East End project, and
- Comprehensive shuttle marketing and promotion.

3.6 Order of Magnitude Costs

The current State shuttles are contracted out through a competitive bid process. All routes in downtown Sacramento are operated by the same private operator. The cost of operating the three peripheral lot shuttles is \$1,204,926 per year. The cost of the CalPERS/Consumer Affairs shuttle is \$50,000 per year; and the cost of the DHS shuttle is \$180,000 per year. The cost of the Ziggurat shuttle which is operated by RT is \$419,760 per year. The total cost of all these shuttles is \$1,850,000.¹⁴

Once a shuttle routing option is chosen, the selected operator would need to provide a bid with formal, detailed cost estimates to the State. For purposes of this report, order of magnitude service level changes and costs have been developed.

For Option #1, we estimate an increase in cost of approximately \$200,000 to \$300,000 per year, or 15%.

For Option #2, we estimate a relatively modest increase in the number of vehicle hours for the total system, from 136 a day to 152 a day, an increase of 12%. The total increase in costs could be approximately 35%, however, the cost per rider would be reduced by 11%. It is reasonable to assume that the shuttles' hourly cost would go up when requiring CNG vehicles, whether the State contracts with a private operator or RT. The added hours of service go toward several improvements:

- The extension to connect the East End to the Capitol/transit core,
- All-day service to DGS in the Ziggurat Building, and
- Improved frequencies for the west area by consolidating the three existing shuttles.

The spreadsheet on page 31 provides a comparison of service levels, fleet requirements, and costs. It should be noted that these costs assume closed door subscription service. If the State were to contract with RT, and RT were to integrate the service into their system (operating it as open door service), the costs could be substantially less than indicated on page 31. Preliminary discussions lead by this consultant and DGS have been very favorable concerning costs.

¹⁴ R. Asbell, Department of General Services, Office of Fleet Administration, February 4, 2002.

Table 3
Summary of Order of Magnitude Costs and Ridership

	Daily				Annual				Ratios	
	Peak Buses	Off-Pk Buses	Vehicle Hours	Passengers	Veh Hours	Veh Miles	Approx. Cost	Passengers	Pass/Hours	Cost/Pass
Current Shuttle System										
Lot 8	6	1	42	626	10,500	88,500	\$480,000	155,914	14.8	\$3.08
Lot 38 Central	6	1	27	571	6,750	69,000	\$410,000	142,278	21.1	\$2.88
Lot 38 West	4	1	20	364	5,000	47,000	\$310,000	91,000	18.2	\$3.41
Sub-total Peripheral Shuttles	16	3	89	1,561	22,250	204,500	\$1,200,000	389,192	17.5	\$3.08
DHS	2	1	18	170	4,500	7,000	\$180,000	42,330	9.4	\$4.25
CalPERS	1	0	5	118	1,250	55,000	\$50,000	29,382	23.5	\$1.70
Ziggurat	4	0	24	120	6,000	40,000	\$420,000	30,000	5.0	\$14.00
Total All Shuttles	23	4	136	1,969	34,000	306,500	\$1,850,000	490,904	14.43	\$3.76
New Consolidated Shuttle System										
East-West Route	10	2	75	1,700	18,750	132,000	\$ 1,250,000	425,000	22.4	\$2.94
North-South Route	6	2	50	700	12,500	150,000	\$750,000	175,000	14.0	\$4.29
Lot 38 Central	6	1	27	600	6,750	69,000	\$500,000	150,000	22.2	\$3.33
Total New System	22	5	152	3,000	38,000	351,000	\$ 2,500,000	750,000	19.6	\$3.33
Percentage Change	-4%	25%	12%	53%	12%	15%	35%	53%	36%	-11%

Note: Project costs are very conservative. Costs could be substantially less if the State contracted with RT and the service was integrated into the RT system.

4.0 PUBLIC INFORMATION/OUTREACH

Currently, the peripheral parking shuttles have limited printed information available for State employees to reference. Distribution of these materials has been sporadic, and there is virtually no marketing of the service. No comprehensive map and/or schedule for all of the State operated downtown shuttles appears to be available; the shuttle service essentially operates and is marketed independently. In fact they are operated under separate contracts and are designed independently, in some cases, to meet particular needs of individual departments. There is limited signage, if any, on the buses indicating the route/key destinations.

It is essential to develop a comprehensive, user friendly, system map and pocket schedules for the downtown shuttles, with coordinated signage at key stops and on the buses to assist State workers in their commute options. A comprehensive "campus-like" shuttle system will maximize ridership potential.

Employees know how to drive to work in their own automobile. Without sound public information and promotion, they do not necessarily know how to commute via a transit/shuttle connection or how to park in a peripheral lot and take a shuttle to work.

Public information and outreach could occur on several levels:

- 1.) "Point of purchase"
 - Bus stop signage
 - Destination/route signage on buses
 - System map and time tables on buses that include key RT transfer locations as timepoints to emphasize the connectivity of the two systems (for example, the Lot 8 or north-south shuttle should have the 16th/R Street LRT Station and 12th/I Street LRT Station as timepoints)
- 2.) "Point of purchase" of non-alternative uses
 - Shuttle materials posted at all points employees can check out a State vehicle
 - Shuttle materials provided everywhere taxi information is posted or distributed
- 3.) Internal promotion (State of California information sources)
 - Websites for DGS and individual agency and department websites
 - Transit kiosks and information boards
 - State cafeterias and key breakrooms
 - Internal newsletters
 - Employee orientation packets
- 4.) External promotion
 - Regional Transit Bus Book and time tables
 - All suburban and regional operators
 - Press release, media promotion - when new comprehensive shuttle begins operation

It is important that information on various shuttles routes and schedules be easily available and user friendly.

5.0 RECOMMENDATIONS

Currently, the State of California contracts for the operation of six separate shuttles in downtown Sacramento. These six routes cover almost all of the major State office buildings in downtown with the exception of those located south of the State Capitol between 11th and 14th Streets. The offices without State shuttle service includes the Caltrans Headquarters Building, Food and Agriculture Building and Annex, Veterans Affairs Building, and the Building and Property Management Headquarters Building.

Ridership on the State shuttles appear to be largely of a commuter nature during the peak periods. An estimated 1,969 State employees, out of the greater downtown employee population of approximately 50,000, use the existing State shuttles each day (representing roughly 3% to 4% shuttle usage).

No formal midday ridership figures are kept; however, general observation on the part of the operator and State employees find little off-peak ridership (from 9:00 a.m. to 3:00 p.m.). However, a midday shuttle that operated from 11:30 a.m. to 1:30 p.m., with 7.5 minute frequencies experienced very high ridership (170/day) for a low cost (\$1.30/trip). This service which was discontinued in 1998 after 32 years, was funded by the private sector (Macy's Shuttle).

Although the 2001 employee survey found that 34% of the respondents never traveled in the midday or did so only 1-2 times per day, 38% of those that did travel midday did so by automobile (either by personal car, State owned vehicle, or taxi). The number one destination for midday travel was clearly shopping followed by lunch. Very few indicated a need to go to the State Capitol or to another office building. Given the success of the old Macy's Shuttle, the current RT K Street Shuttle, and the survey responses, it may be viable for the State to work with RT to implement a lunchtime, retail oriented shuttle with frequent service funded by downtown businesses. Any midday shuttle designed to serve lunchtime and shopping needs would need to be funded privately or by RT, not by the State of California.

Currently, the shuttles are operated to meet individual (i.e., Department) needs and are not designed or managed as a cohesive system. Implementation of a Comprehensive Capitol Area Shuttle System is critical to fully reap the benefits of the current public investment. By coordinating these services in addition to augmenting as needed, a true user-friendly, "campus-like" system can be created.

Option #1 provides for incremental changes to the six current independently operated shuttles. This option would not impact current institutional arrangements. It does not provide, however, as high of a service level improvement as Option #2.

It is recommended that Option #2 be implemented to provide a streamlined, user friendly shuttle system. Option #2 calls for a modest increase in service hours of 12% and is estimated to result in an increase in ridership of approximately 53%, for an estimated 750,000 annual riders. The Comprehensive Capitol Area Shuttle should be operated 100% with clean fuel vehicles such as CNG or electric buses. It must be aggressively and consistently marketed to employees as an employee benefit.

Employees of DOE and DHS that are moving into the East End project will benefit from the shuttle and a special effort should be made to market to them.

Every effort should be made to contract with Sacramento Regional Transit to provide the Comprehensive Capitol Area Shuttle service for the State of California. RT has a 100% CNG, accessible fleet. By contracting with RT to operate the service, routes can be streamlined and integrated into the RT system, thereby providing a seamless mobility option for State employees, and greatly reducing the costs below those projected in this report.

APPENDIX

Appendix

Meeting notes from The Hoyt Company presentation of the DGS Comprehensive Shuttle Program to the SACOG Transit Coordinating Committee

Transit Coordinating Committee (SACOG) November 20, 2001 - Meeting Notes

Agenda Item: Discussion of Transit Service Planning for State Comprehensive Capitol Area Shuttle

Wendy Hoyt introduced herself as a subconsultant to EIP Associates that was currently doing work for Bob Sleppy and the State DGS. She acknowledged Richard Shedd from Fleet Administration who was in attendance at the meeting. She provided a brief summary of the comprehensive Capitol Area transit planning currently being DGS projects including three of the major components: comprehensive shuttle system for the downtown core area, employee mode survey, and the Transportation System Management Plan. She explained that the goals of these projects included increased State employee transit ridership, reduced parking demand, and improve air quality.

The presentation before the TCC outlined brief highlights of the State survey transit ridership results and a breakdown between transit resources. A map (stamped "draft") of the six current State shuttle routes and State-owned buildings was distributed to show the relationship of existing shuttle services (also shown on overhead projector). The highest ridership transit stops were identified at:

- 13th and I
- 11th & I
- 10th & Q
- 8th & N

Survey results supported greater transit ridership if a comprehensive downtown shuttle system was available.

Wendy asked the transit operators "How can the State provide the appropriate circulator system that partners with transit providers?". "Where are key locations (stops) that you would like to see a comprehensive State shuttle serve?".

Terry Basset, General Manager for Yolo County Transportation District, wanted to know how many buses operate the five State routes (excluding the new Zig shuttle). The number of buses providing State shuttle service was not available but information as to the number of daily riders served was 1,700 to 1,800 State employees.

Mike Wixon, General Manager of Roseville Transit asked if non-State employees can ride the State shuttles. Non-State employees can not ride the current State parking shuttles.

Bill Durant, of Paratransit, Inc., referenced that a college campus style shuttle would be good if it was like the CSUS system where non-students can ride. This provides access for seniors and others in the community. It would also accommodate non-work related trips. He stressed that a true campus-like shuttle would serve the downtown neighborhoods.

Mike Wixon thought that a comprehensive State shuttle system would need to be open to everyone in order for commuter systems to coordinate in the downtown. He indicated that if non-State employees were not allowed to ride the shuttle, Roseville Transit would not provide connections to the shuttle; they will not stop if all of their riders can not connect with/ride the State shuttle. He suggested frequencies of 5 to 7 minutes in the peak.

Terry Basset indicated that external operator costs are rising. He is getting comments from CalEPA riders that want to be dropped closer (currently YoloBus stops 2 1/2 blocks from CalEPA). Important elements for a State comprehensive shuttle would include "frequent headways", "shelters" and "a common collection point".

Keith Martin, General Manager of Yuba Sutter Transit, asked if the State will help offset some of the increase in operating costs when ridership begins to grow. They are having to buy additional buses to serve the commuter demand by State employees.

Yuba Sutter transit rider comments include requests for service at:

- Caltrans area at 30th Street
- Richards Boulevard - DHS and Lottery
- South Natomas

Wendy asked if the suburban operators would serve a central point if it was the future Intermodal Facility at the old Amtrak Depot. Most operators agreed with Keith Martin who said it would not be served by Yuba Sutter because it would be "too remote a location" to be viable for downtown service. Additional transfers will discourage ridership.

Wendy provided brief information to the committee regarding the extension of 7th Street which will begin construction in spring 2002 and improve access and allow for service directly to Richards Boulevard.

Kent Gary, of Folsom Stage Lines, said that Folsom riders want an earlier service so that they can catch Amtrak for commuting out of town. After RT opens the Folsom LTR line, Folsom Stage Lines will cease their commuter service to downtown Sacramento and convert their fleet to more local service.

Mike Wixon said that Roseville service comes in on the south end of town. They just completed an annual rider survey to find out what stops were desired. If a State shuttle was not open to non-State employees, "it would not work".

Keith Martin said that Yuba Sutter comes from I-5 and services the downtown within a three block area. A State shuttle service would augment well the existing commuter service. Yuba Sutter plans for a total of 6 routes by April 2002.

Terry Basset said that 1 of 4 Yolo riders (systemwide) transfer to RT. A State shuttle would need good connectivity and frequent service. He suggested extending the Zig shuttle to loop with the East End project (perhaps as a pilot route).

Wendy noted that a midday shuttle service, which was demonstrated from survey results, might be recommended (especially if private sector partners could help finance). The north/south connectivity is already good, but the east/west connectivity is limited.

Jim Brown of (SACOG) revisited the Richards Boulevard and access to downtown. He thought that a rail stop is needed/mission to provide this service to town.

Jim MacElroy, Unitrans asked if RT will operate service out of the Richards Boulevard area.

Doug Wentworth from RT indicated that this service may be incorporated from the Downtown Natomas Airport (DNA) line in the future but nothing in the near term except maybe when 7th Street opens up. The 7th and G Street layover will be moved to 8th and 9th.

Jim MacElroy asked if the State shuttle system would “compete” with RT.

Terry Basset thought that the sewer line along 7th Street may cause issues for Yolo and RT operations.

Wendy encouraged operators to provide additional comments and suggestions, and requested that follow up comments be forwarded to The Hoyt Company no later than Friday, December 21st. She then thanked SACOG and the TCC for giving the State time on their agenda.