



THE FUTURE OF DOWNTOWN SAN FRANCISCO

EXPANDING DOWNTOWN'S
CAPACITY FOR
TRANSIT-ORIENTED JOBS

SPUR REPORT

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INTRODUCTION

Since 1990, Bay Area residents have been driving nearly 50 million more miles each day. Regionally, transit ridership to work fell from a high of 11.4 percent in 1980 to around 9.4 percent in 2000. Although it has increased slightly since 2000 (to 9.8 percent), Bay Area transit ridership remains less than 10 percent of all commute trips.¹ Meanwhile, our heavy reliance on automobile commutes is one the Bay Area's chief contributions to climate change. This pattern of driving to work and other destinations — and its resulting environmental impact — stems from the sprawling geography of homes and jobs, and an infrastructure system that builds ever outward.

The smart growth movement has long called attention to the problems with sprawl, but has often been focused on *residential* sprawl. Yet the dispersion of jobs into suburban and exurban office parks that can never be served by transit is just as much of a threat to the environment as residential sprawl, if not greater. To achieve a low carbon future, Bay Area residents need to be able to commute to work on transit.

This SPUR policy paper argues that our best strategy to reduce job sprawl it is to channel more employment growth toward existing centers, particularly the transit-rich downtown of San Francisco.

Other transit-served employment centers in the Bay Area, such as downtown Oakland and San Jose, as well as Concord and Walnut Creek, also should capture a growing share of regional employment. The success of the other transit-served job centers is key to a future Bay Area that uses less carbon. But most workers in these other locations, including downtown San Jose and Oakland, drive to work. Future SPUR policy statements will look at what can be done to improve the land use, urban design and transportation networks for the other employment hubs in the Bay Area. But downtown San Francisco is the only employment node in the region where most people travel to work without bringing their own car. Therefore, this paper focuses on downtown San Francisco as the node with by far the greatest near-term potential to accommodate regional employment growth with a low carbon footprint.

We believe there are many benefits of adding jobs to downtown San Francisco:

1. A reduction in the land eaten up for suburban office parks, by providing jobs in a denser format that more efficiently uses space and energy.
2. A reduction in the driving and emissions associated with daily commuting in the region, by maximizing the number of jobs within walking distance of transit lines.
3. The creation of high paying jobs for residents of the city and region.
4. The encouragement of innovation, by bringing smart people into contact with one another in a dynamic urban location.
5. Increased funding for the broad array of public services we are proud to offer as a progressive city trying to serve as a model for the rest of the country.

At the same time, there are significant barriers to adding jobs to downtown San Francisco:

1. San Francisco is an expensive place to create employment because of high commercial rents, office development fees, business taxes and salaries (which are driven in part by housing costs). We have to try to keep costs as low as we can yet make sure that we add value to those who do business or work here, to make it acceptable to bear the high costs. San Francisco has a reputation

¹ American Community Survey, US Census. <http://www.census.gov/acs/www/>

for a hostile business climate, manifested both in anti-business rhetoric and in the time-consuming bureaucratic processes businesses encounter when they must interface with local government. Perhaps the anti-business rhetoric is now part of the city's culture. But if that is true, then it is all the more critical that government be efficient, transparent and predictable, in order to not drive away employers.

2. Current zoning does not allow for significant new office growth. We must change zoning to fit more office buildings into the traditional central business district, or to expand the office core into adjacent areas in the South of Market and Mid-Market areas. Our transportation networks, especially the Embarcadero and Montgomery BART stations, are nearing capacity. We must significantly expand transit capacity if we want to continue to add jobs in San Francisco.

San Francisco's costs and business climate as barriers to job growth have been explored in depth in previous SPUR reports dealing with the tax structure,² business costs³, housing policy⁴ and government efficiency.⁵ This report focuses primarily on the physical planning problems that need to be solved: zoning for jobs and adding transportation capacity.⁶

The report is organized into the following sections that develop the argument about why downtown San Francisco's office core should expand, and how:

The Problem: Over the past 30 years, the Bay Area has seen increasing job sprawl in the suburbs, declining transit ridership and expanding commutes. This pattern has meant the urban and transit-rich core of the Bay Area has been losing employment share relative to fast-growing, auto-oriented office parks from Silicon Valley to the outer East Bay.

The Solution: In order to meet climate change goals, we must change this regional pattern of job sprawl and shift employment to transit-oriented centers. Our region must plan for and support new and existing transit-rich, dense employment districts as the best way to reduce the amount of commuting done by car. This section makes the case for the traditional downtown central business district model — with its hub and spoke transit system — as appropriate for San Francisco and the region. It demonstrates the environmental, equity and economic benefits of the central business district model.

The Constraints: The region's most successful downtown — San Francisco — has limited zoned space for new development and capacity on its transit system. Many of the limits on new development and transit capacity stem from policy decisions about land use. This section describes the key zoning rules and policies that restrict the expansion of downtown. This section also describes how our transportation system has its own capacity limits, particularly for the commute from the East Bay. Because the way we increase capacity is a key tool in our long-term planning and development successes, we also identify which transportation modes and investments offer the greatest increase in capacity. We

² "More Work, Less Waste: Can Environmental Tax-Shifting Work in San Francisco?" September 2008 (www.spur.org/documents/090408_article_02.shtml).

³ "Business Taxes in San Francisco: A Review of How Taxes Affect Business Location Decisions," February 2004 (www.spur.org/documents/040201_report_01.shtml).

⁴ "Zoning for More Housing," February 1998 (www.spur.org/documents/980401_report_01.shtml); "Affordable by Design: A Proposal to Create Middle-Income Housing in San Francisco," November 2007 (www.spur.org/documents/010808_article_01.shtml).

⁵ "Reforming the Department of Human Resources," Published by SPUR in February, 2005 (www.spur.org/documents/050401_report_01.shtml); "The Big Fix: Capital Planning in City Government," Published by SPUR in November of 2004 (www.spur.org/documents/050101_report_02.shtml), and many others.

⁶ Note: This report also builds on a prior SPUR paper that explored the competing notions of a downtown focused on jobs (the central business district model) versus a more mixed-use downtown focused on entertainment and housing (the central social district model). See: http://www.spur.org/documents/030107_article_01.shtml.

argue that the high performance transportation modes of transit, bicycling and walking reinforce our urban planning objectives, while highway expansion works against our objectives.

The Recommendations: In order to incorporate more employment growth in downtown San Francisco, we need to make changes to our land use rules and our transportation system. This section provides a framework and a set of recommendations for changes to land use and transportation in downtown San Francisco. The goal is to allow downtown San Francisco to keep pace with regional employment growth instead of continuing to support outward job sprawl.

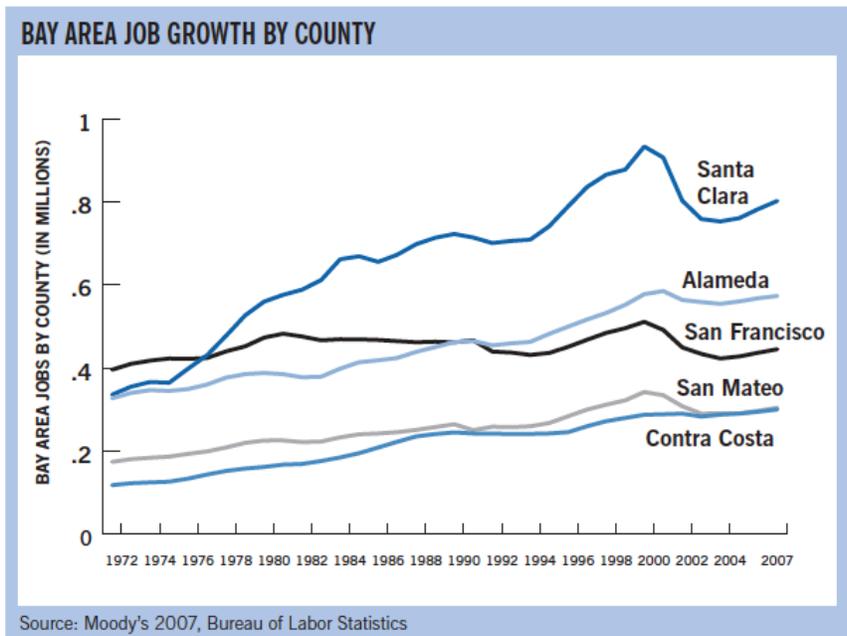
THE PROBLEM: Regional job sprawl and the decline of transit-served central business districts

In recent decades, employment in the Bay Area has boomed. But too much of this growth has gone to auto-oriented office parks outside of the transit-rich core of the region. This process has led to an increase in driving and pollution, and a decline in transit ridership as a share of commute trips. Even the major regional investments in rail (BART, Caltrain) to serve the existing downtowns of San Francisco, Oakland and San Jose did not reverse the overall trend. Changing this development pattern is necessary if we want to achieve a lower carbon region.

Since the 1970s, most job growth has gone to the suburbs.

Since 1970, the nine-county Bay Area region has added approximately 1.25 million jobs. San Francisco accounted for 4 percent of this growth, while Alameda and Santa Clara Counties accommodated 57 percent of the region’s new jobs in the past three decades: 20 percent and 37 percent, respectively. Contra Costa County was 15 percent of this regional growth, while San Mateo County accounted for 10 percent of the regional increase.⁷

Figure 1



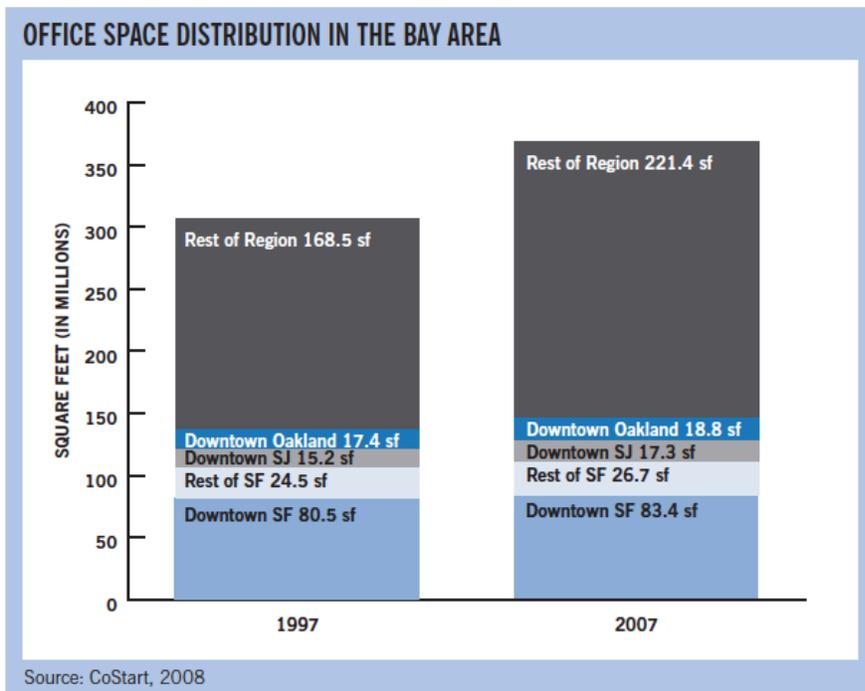
⁷ Moody's 2007

Office space is growing much faster in the suburbs than the cities.

During the 1970s, downtown San Francisco and Oakland developed millions of square feet of office space. Yet since that time, an increasing share of the region’s office space has been built in the suburbs. From 1997 to 2007, which included the dot com building boom, downtown San Francisco’s share of the region’s total office space declined 3 percent. Over this decade, San Francisco captured only 8.4 percent of the region’s total office production.

A similar trend occurred in other downtowns in the region. During the period of 1997 to 2007, downtown Oakland and San Jose experienced a reduction in their share of regional office space, almost a 1 percent loss when both are combined. Meanwhile, San Mateo County and the rest of Santa Clara County increased their share by 5 percent.

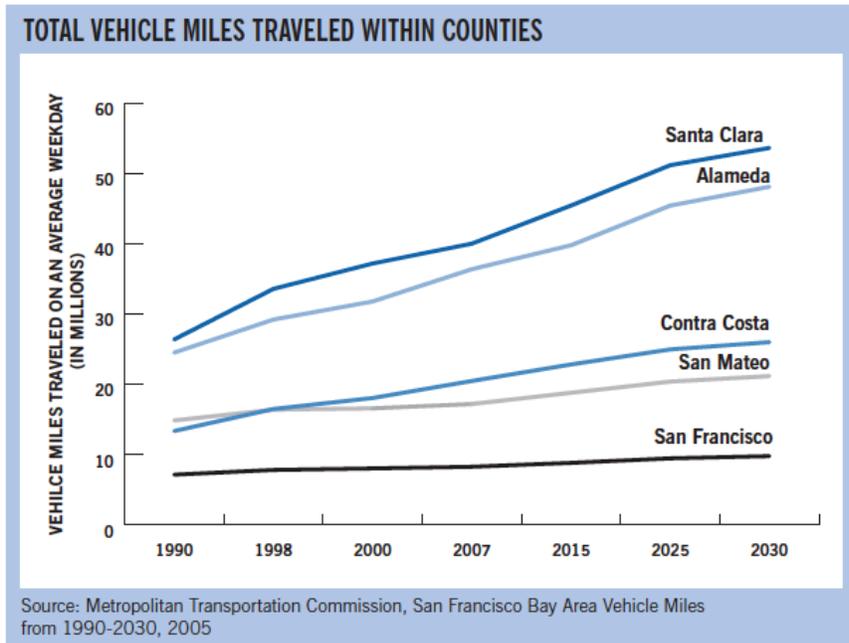
Figure 2



Bay Area residents increasingly are driving to work, particularly in the counties with the most suburban office parks.

Low-density auto-oriented development has been the primary type of office space built in the counties with the greatest employment growth, and because these office parks are being built along the region's highways, the dependency of the region's workers on automobiles is increasing.⁸

Figure 3



Santa Clara, Alameda, and Contra Costa counties have experienced the greatest employment growth of the region, but these counties also are contributing the most to the region's total vehicle miles traveled. Even as Contra Costa has invested in transit accessibility to employment centers through shuttles and bus lines (to San Ramon's Bishop Ranch), the county has seen a 65 percent increase in VMT during the past two decades.

Although transit ridership has grown, it has declined as a share of all commute trips.

Since 1970, the region has spent tens of billions of dollars on transit investments. We finished building and opened the Bay Area Rapid Transit (BART), established and expanded Caltrain, built a subway for Muni and BART trains under Market Street, opened the Altamont Commuter Express, a train system from Stockton to San Jose, created the Valley Transportation Authority (VTA) and brought light rail to San Jose. Meanwhile, automobile commute trips rose at a far greater rate.

Because the number of car commuters rose faster than the number of transit commuters, the percentage of commuters taking transit to work declined slightly from 11.2 percent in 1970 to 9.4 percent in 2000.⁹

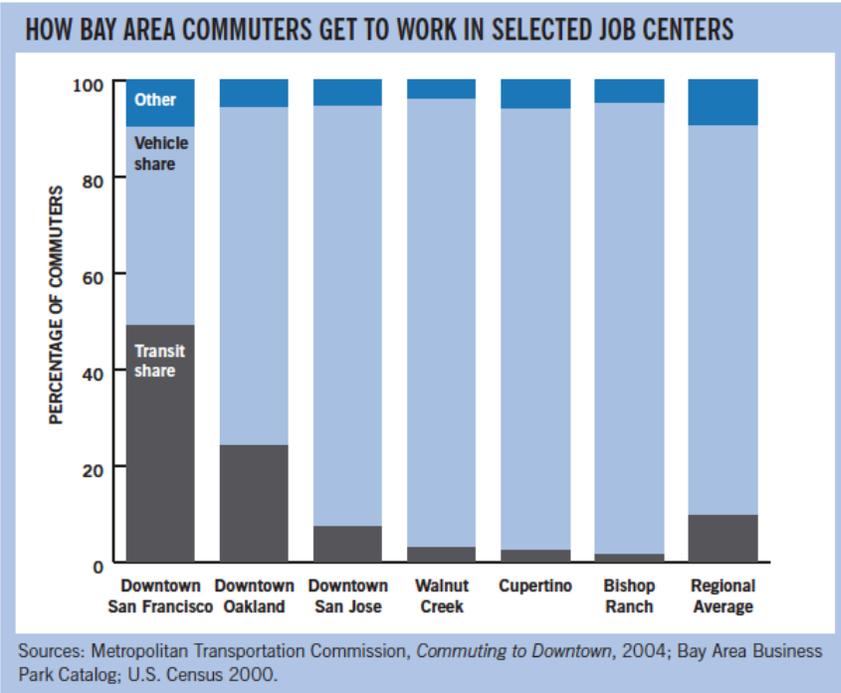
⁸ Metropolitan Transportation Commission, *San Francisco Bay Area Vehicle Miles from 1990-2030, 2005*. http://www.mtc.ca.gov/maps_and_data/datamart/stats/vmt.htm.

⁹ Metropolitan Transportation Commission, *Commuting to Downtown, 2004*. www.mtc.ca.gov/maps_and_data/datamart/census/ctpp2000/

Since 2000, transit commuting has increased slightly, but it still accounted for only 9.8 percent of commuters in 2007.

Among the region’s many job centers, only in downtown San Francisco has the percentage of commuters taking transit to work remained at roughly 50 percent. Downtown San Francisco also accounts for a staggering 50 percent of the region’s total transit commute trips. In some areas of downtown San Francisco, such as the core financial district adjacent to Montgomery and Embarcadero BART stations, more than 3 in 4 commuters arrive via transit (actual measured ridership was 77.1 percent in 2000).¹⁰

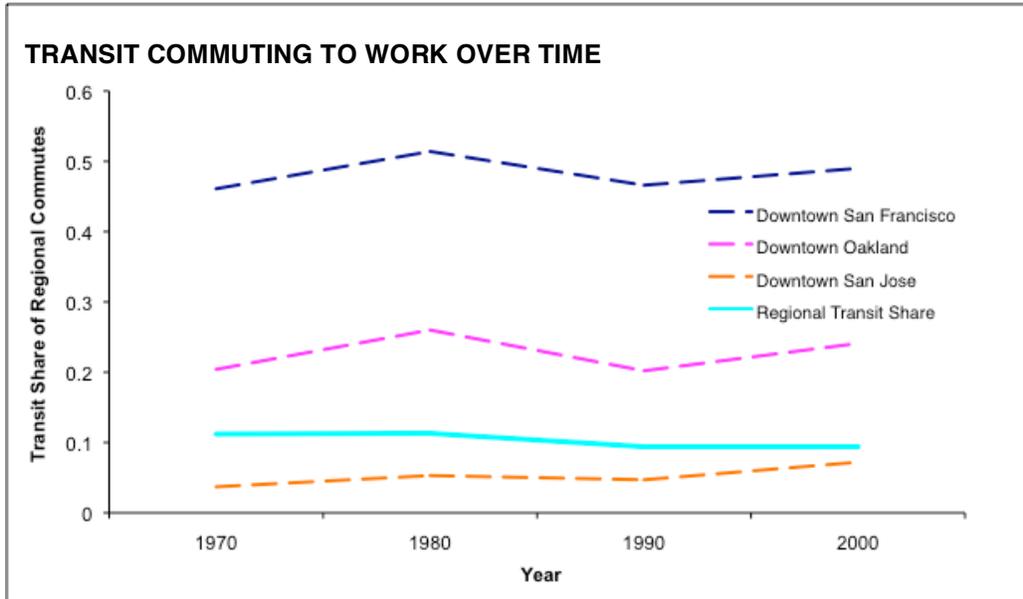
Figure 4



¹⁰ Transportation Management Association of San Francisco, (TMA SF), 2000 Commuter Behavior Surveys.

Aside from downtown San Francisco and downtown Oakland, there is no other major job center in the region with greater than 10 percent transit ridership to work. Downtown San Jose, the third largest public transit commute market, has only 7 percent of its commuters taking transit to work.¹¹ All other major job centers in the region have less than 5 percent transit ridership to work.

Figure 5



Share of trips on transit to work at select Bay Area downtowns and region-wide since 1970

Source: Metropolitan Transportation Commission, *Commuting to Downtown*, 2004.
http://www.mtc.ca.gov/news/press_releases/archive/rel263.htm

¹¹ Metropolitan Transportation Commission, *2000 Census Shows Big Gains in Public Transit Ridership to Bay Area Downtowns*, 2004, [/www.mtc.ca.gov/news/press_releases/archive/rel263.htm](http://www.mtc.ca.gov/news/press_releases/archive/rel263.htm).

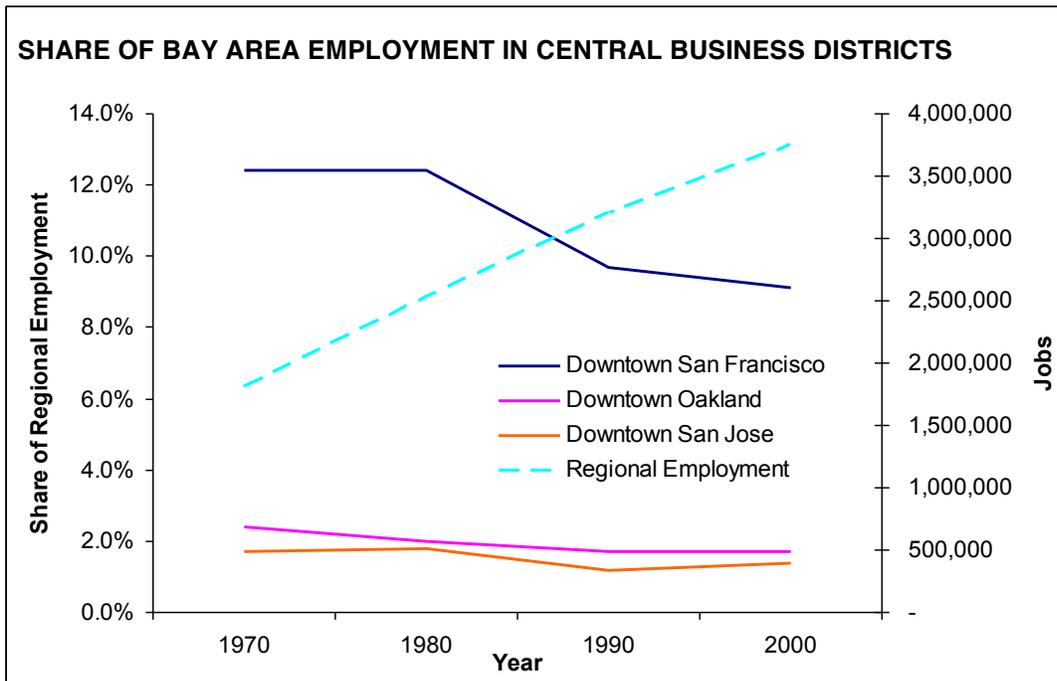
Employment in the Bay Area’s center cities and downtowns has declined relative to the region.

While Downtown San Francisco and Oakland have shown steady transit ridership, the region has increased the number of vehicle miles traveled and has reduced its transit use, because these same downtowns are losing their share of regional jobs.

Since 1960, San Francisco has dropped from having approximately 30 percent of the Bay Area’s jobs to 20 percent in 1990 and around 16 percent in 2008. Meanwhile, downtown San Francisco saw its share of regional jobs remain the same during the 1970s but decline from just more than 12 percent to 9 percent between 1980 and 2000.

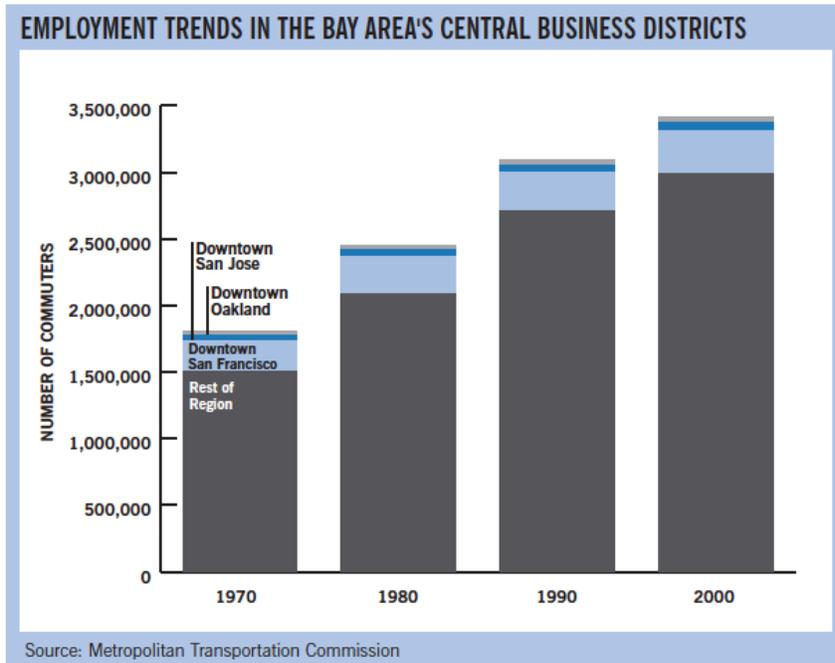
Similarly, the downtowns of Oakland and San Jose also saw declines as a share of regional employment. Today, the combined employment of the downtowns of San Francisco, San Jose, and Oakland accounts for just more than 10 percent of regional employment.

Figure 6



Source: Metropolitan Transportation Commission, *Commuting to Downtown*, 2004.

Figure 7



Even the dramatic growth in downtown San Francisco did not make up for job losses elsewhere in the city.

Since 1970, many jobs within San Francisco have shifted downtown. Previously, San Francisco had tens of thousands of jobs along its eastern waterfront, including the Hunters Point Naval Shipyard and Pier 70.

In 1965, the city had 26 million square feet of offices.¹² By 2008, San Francisco had 110.2 million square feet citywide, with 83.5 million square feet downtown.¹³ Despite the emerging skyline in downtown San Francisco giving the appearance of a fast-growing city, the loss of manufacturing acted as a counter-force to the growth in office work. Therefore, total employment in San Francisco increased only slightly (4 percent) since the early 1970s as our regional share of employment fell 11 percent.

Residents of San Francisco increasingly are driving to work, and often are leaving the city for jobs elsewhere.

Over the past few decades, transit commuting among San Francisco residents has declined while driving alone to work has increased. This change is due to both the increase in San Francisco residents who

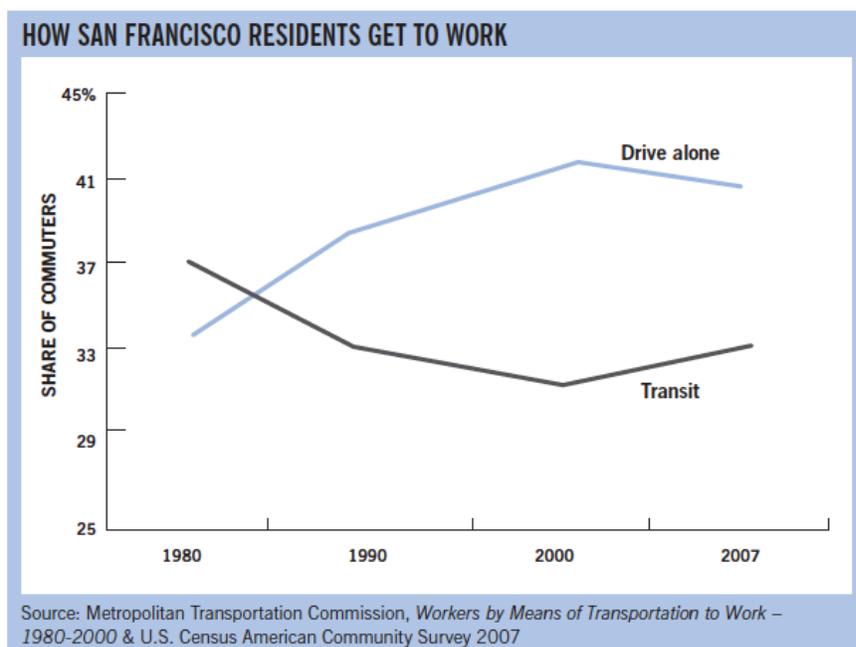
¹² San Francisco Planning Department, *San Francisco Downtown Plan*

¹³ The CoStar Group generously offered SPUR access to data regarding office space for multiple Bay Area markets and their submarkets. Access to CoStar data is granted only with permission from the CoStar Group. Note: SPUR defines "downtown" as the following real estate submarkets: Financial District, South Financial District, SOMA, Lower SOMA, Rincon/South Beach, Civic Center, Union Square, and Yerba Buena submarkets.

commute to jobs elsewhere in the region¹⁴ and as a result of perceived declines in the quality of local transit in San Francisco.

In the last few decades, residents in San Francisco have gotten wealthier and are more likely to own a car. At the same time, Muni funding and enhancements have not kept pace, leading many city residents to choose to drive to work, even if Muni were an option.

Figure 8



Most suburban employment centers will never be served well by transit.

It will be difficult, if not impossible, to ever effectively serve many of our region's suburban office parks with regional transit that would result in high levels of transit ridership. Most office parks in Silicon Valley and the East Bay are too far from Caltrain or BART to facilitate walking, and the job density of these places would make it nearly impossible to build a rail system to link the centers. Further, most of these projects offer plentiful and free parking.

The decision about whether to take transit to work is based more on where one works, not where one lives.

A recent study found that commuters are most likely to take transit to work if their job is a very short walk from a transit station (particularly rail), even if they have to drive to a transit stop from their home.¹⁵

¹⁴ Metropolitan Transportation Commission, *Workers by Means of Transportation to Work*
http://www.mtc.ca.gov/maps_and_data/datamart/census/dp234/Means19602000.htm

¹⁵ According to a recent study on transit-oriented development projects in California, a survey of office sites located near transit oriented development projects found that depending upon the density, parking costs, and distance from a transit stop, the likelihood that an employee takes transit to these jobs is positively influenced by high density development, high parking costs, and convenient access to a transit platform. The study also found that while distance from an office site has a relationship as to

This conclusion means that people are willing to walk or drive within their own community to get to transit (the origin of their trip) but they need their job (the destination) to be within a very short walk from transit in order for them to take transit to work. For example, most residents of transit-rich San Francisco who out-commute drive to their jobs in Silicon Valley because of the limited number of jobs near Caltrain. Meanwhile, residents of less transit-rich East Bay are far more likely to take transit to work if their job is anywhere in downtown San Francisco.

The implication of the study is that it is more important to put jobs next to regional rail than it is to put them next to housing. It also demonstrates that we will not see an increase in transit ridership to work simply by putting more residents in housing near transit, either in suburban transit-oriented developments or in transit-rich cities.

In order to change the region's dependence on driving to work, we need to put more jobs near transit, particularly in downtown San Francisco and other dense urban centers. But to reverse this 30-year trend, we must acknowledge why jobs left the cities in the first place, and what the suburban areas offered that was valued by employers and employees.

Jobs left central cities because of “pull” factors in the suburbs and “push” factors in the cities.

The suburbanization of work in the Bay Area was not simply the result of the failure of urban policy to capture growth in the region's urbanized core. In fact, it occurred despite some significant planning successes such as the building of BART and the growth of adjacent high-density office districts in downtown San Francisco and Oakland.

The key factors resulting in faster job growth and office development outside of San Francisco include “pull” factors that made the suburbs more attractive and “push” factors that reduced the perceived benefits of the urban environment.

The pull factors of the suburbs include the ease of auto commutes — an ease derived from subsidized parking and roadways that initially were not congested — as well as lower wages, office rents, utilities and taxes. In addition, it was easier for businesses to obtain permits for new development. While all suburbs had these attributes, there were differences among the subregions of the Bay Area. Most notably, some of the employment growth in the East Bay, particularly Bishop Ranch and Hacienda Business Park, was the result of relocations from San Francisco, while the rise of Silicon Valley was based more on independent factors such as the confluence of emerging technology research, risk capital and entrepreneurship. As a result, the extraordinary rise of Silicon Valley as the economic engine for much of the region is a story that cannot be explained in standard urban economic factors (such as proximity to a traditional central business district), but nevertheless it constituted a powerful job creation magnet south of San Francisco.

The push factors that discouraged job creation in the traditional cities included higher taxes and crime, a lower perceived quality of public services, slower permit approvals, growth caps, and a political and community environment skeptical of job growth (particularly in San Francisco). In addition, many industries went to the suburbs to follow their employees who had moved there.

whether or not employees will take transit to work, distance of residences from transit stops seems to have no correlation with transit ridership. Cervero, Lund. Travel Characteristics of Transit-Oriented Development in California, 2004

These push factors and pull factors, combined with greater federal and state investment in suburban infrastructure, contributed to an environment where urban development and growth was not competing on a level playing field.

Ironically, the industries that saw the greatest growth in the suburban areas were the same ones that were most competitive in the central business districts: finance, insurance, professional services and real estate.

Yet, SPUR believes that we are now entering an era in which central city employment growth will be more competitive as the suburban areas lose some of their perceived benefits. Why? First, some of the prior push factors of the cities either have improved or have become benefits. We now see that strict control of the parking supply creates better urban spaces, and many now appreciate a more urban experience made possible by less automobile parking. That change, in turn, improves the quality of public space, and more pedestrians create a perception of safety, leading to reduced fears of crime, at least in San Francisco. In addition, the quality of the labor force in key central cities, particularly San Francisco, is unparalleled. The percentage of adults with a college degree is highest in San Francisco among all cities in California and second only to Seattle nationally. The education level of residents is one of the key variables for a high-performing knowledge economy.

Meanwhile, many of the initial advantages of the suburbs have decreased. Some of these factors are becoming “push” factors. Roads are congested and commutes are longer. Gas prices are unpredictable and likely to increase dramatically over time, thus making car-oriented commutes less affordable. Taxes have gone up as suburban communities struggle to pay for services. The decentralization of work has made many suburban communities more isolated from each other. Further, many office parks lack the mix of services and amenities employees seek.

These factors are beginning to provide further evidence of the benefits of a transit-rich central business district (CBD) with access to a broad pool of labor. As regional employment grows, the knowledge industries that were most likely to move to the suburbs also are the ones that are the most natural fit in the CBDs. This is where the competitive advantage of the CBD lies.

THE SOLUTION:

The best environmental and economic response for the region is to expand our dynamic, transit-served central business districts.

While the past 30 years saw the rise of suburban job centers, we are entering a carbon-constrained era that will place new constraints on pollution and driving, and thus will reinforce the chief benefits of dense downtown central business districts.

The central business district is the most environmentally sustainable employment form for a large workforce.

The proximity of firms to their workforce, clients and collaborators located in central business districts creates enormous environmental benefits and increases energy efficiency. Dense employment nodes are easier to serve via transit, and higher transit use means fewer vehicle miles traveled and reduced emissions of greenhouse gases such as carbon dioxide. In addition, because downtowns have a mixture of uses, workers can make multiple trips throughout the day (such as for lunch) on foot. Further, jobs in tall buildings are more energy efficient, as the heating and cooling functions are shared by a much larger number of people.

While suburban office parks surrounded by trees or lakes offer a bucolic environment, they are far more environmentally damaging than towers of glass and steel in the core of a city. Uncontrolled office development on suburban sites will expand commuter sheds and increase reliance on automobiles, fueling sprawl and congestion. It also results in environmentally damaging loss of natural habitat and open space.

A more environmental alternative is to encourage office development around transit nodes and concentrations. Fewer than 20 percent of the workers in the core of downtown San Francisco's Financial District arrive by car. In contrast, more than 90 percent of workers in the office parks in the core of Silicon Valley and the East Bay arrive by car. Higher transit use means fewer vehicle miles traveled and reduced emissions.

The central business district offers economic benefits not found in other employment patterns.

The central business district is a dense employment district that reinforces the innovation and economic competitiveness needed in the global knowledge economy. Economic development always has taken place in areas that foster innovation among existing firms. Regional economists long have noted the role of particular districts, or clusters of firms and their suppliers, as key to economic competitiveness. The CBD is a current form of such an innovation district.

In the CBD, there is a high concentration of knowledge workers. The agglomeration of such knowledge work results in a "spillover effect" in which rival firms share specialized suppliers, talent, sources of finance and access to new ideas about how to run their business or market their product. This supports an innovative and often entrepreneurial environment that ultimately improves the overall competitiveness of all the firms in the CBD. If firms are able to succeed in the local competitive environment, they are more likely to be able to successfully compete beyond it. The shared experience of the CBD in turn supports

the creation of complementary institutions that reinforce the competitiveness of the place and the rival firms within it.¹⁶

These concepts can be summarized under three key general economic benefits of the CBD concept: agglomeration, attraction of talent and gateway to the region:

Agglomeration economies: The agglomeration effect of the CBD has been studied by researchers since the late 1950s. This research suggests that agglomeration is due to external economies and other advantages, such as access to common pool of labor, a variety of business services and suppliers, information, and professional face-to-face interactions — all of which are more difficult to acquire in dispersed locations.¹⁷

Researchers consider the highly collaborative nature to be essential for producer service establishments. The general idea is that face-to-face contact, co-production, and the exchange of ideas and know-how occur with more immediacy and at lower costs in the compact CBD, where the distances between firms are the shortest (Ihlanfeldt, 1995).

Put another way, CBDs offer unique advantage by providing office facilities for face-to-face interaction in “confrontation” industries. Confrontation industries are the financial institutions and business offices, particularly headquarters offices that cluster partly because of the advantages of direct negotiation and conferring. Service providers such as advertising agencies and accounting firms also find it advantageous to set up shop in the same area as their major clients.¹⁸

The other benefit of face-to-face interaction is highlighted in the transition of knowledge tasks from those that are easily transmittable, or codified, to those that are more informal, tacit. Codified knowledge is information that is easily transmittable in formal, written formats such as patents, software codes, technical drawings or chemical formulas. This does not require a physical presence. Tacit knowledge, on the other hand, stems from direct, informal experience that is mostly intuitive, unarticulated and hard to put into artifacts.¹⁹ As Howells (2002:872) elucidates, “It represents disembodied know-how that is acquired via the informal take-up of learned behavior and procedures.” Tacit knowledge cannot be easily transmitted and assimilated, especially if the degree of tacitness is less codified. It requires face-to-face interaction to pass on implicit aspects, and requires a certain level of absorption capacity on the side of the recipient — especially when

¹⁶ This notion of competitiveness in agglomeration has been supported by a range of sources, from writings about clusters of competing firms and economic competitiveness (Michael Porter) to the innovative milieu of the inner city (Molotch 1994) to knowledge spillovers (Audresch and Feldman, 2000) to the “space of flows” (Castells) and ultimately to social agglomeration from ethnic cultural diversity (Richard Florida). See also Sternberg (1991). In a more recent phenomenon, we are seeing the CBD emerge again through the trend of the “centralization of dispersion” in knowledge industries. This means that as we enter a period of increasingly dispersed business activity facilitated through the Internet, there are nonetheless places that have to manage this dispersed activity. That is the “centralization of dispersion,” or the management of decentralized capitalism. For example, in 2008, as Macy’s stores were facing a severe slowdown in sales and a declining economy, Macys.com was growing quickly and signed a lease for 70,000 square feet in a historic building in the heart of downtown San Francisco. The hundreds of people employed at Macys.com are centralized in downtown San Francisco as they manage a system of sales, shipping and customer service that expands globally. This process is quite similar to the role of the CBD for the corporate headquarters that would manage its distributed production activities. The difference merely is that the increasing dispersion of business activity around the globe has resulted in even greater concentration and centralization of particular functions to manage that dispersed system.

¹⁷ Ernest Sternberg, *The sectoral cluster in economic development policy: Lessons from Rochester and Buffalo, New York*, *Economic Development Quarterly*, 5(4), p. 342, 1991

¹⁸ Murphy, R. E. (1972). *The central business district*. Chicago, Illinois: Aldine. Atherton, Inc.

¹⁹ See: (Rooney 2003).

the inherent complexity is high, as in the case of technological knowledge. The downtown office district excels in interactions that support this tacit knowledge.²⁰

Attraction of talent: In the context of a knowledge economy with increasing global competition, the key attribute of a CBD may lie in the attraction of a globally competitive workforce. Because of the organization of the region's transportation network, the CBD is often the most accessible place in the region to the greatest number of workers. As a result, employers who seek the widest range of talent are best suited by locating in the CBD. Further, the specific features of a CBD also are attractive to this very same globally competitive workforce. These features include amenities such as street life, nightlife, restaurants and other entertainment. Some have argued that the human-centered resources of a CBD are an adaptation to the knowledge economy and are imperative for the global challenge. Particularly, more financial firms and agencies settle in CBD that enables them ongoing global connections.

Gateway to the region: The CBD also has "soft powers," such as being the traditional gateway to the region. When foreign visitors come to a region, they often are introduced to the region by visiting the central business district of the center city. In the Bay Area, global visitors often begin their trip in downtown San Francisco, not in the office parks of Silicon Valley. This tradition reinforces the prestige of the CBD and provides a great advantage over suburbs and edge cities.

The CBD must be part of an equity strategy for the region.

The economic advantages of expanding a CBD are as true for workers and residents as for firms. From the perspective of workers, the four key advantages of expanding the CBD are greater access to employment, more middle-income jobs, more production jobs, and more unionized workers in the building service and building trades.

Adding jobs to the CBD increases employment opportunities for a wide range of local and regional residents.

Because the CBD is the most accessible place in the region for work, employment growth there provides opportunities for many communities. In particular, for residents of the central cities, employment growth in the CBD means shorter commute times because workers are not as likely to have to commute out of the city to find an appropriate job. Further, because of the high concentration of work, if workers lose a job at one employer, it is more likely they can find another similar job in the same place without disrupting their overall commute.

The CBD offers many living wage jobs that do not require college degrees.

In general, the industries that occupy downtown office buildings provide a significant portion of the middle-income employment in a city. These jobs often do not require a four-year degree. However, it is typically the larger employers that offer the bulk of these middle-income jobs. As a firm expands, it fills out its organization chart to hire employees in the many administrative office functions that form the core of middle-income knowledge work. These jobs are growing in the Bay Area but have not grown in San Francisco as the city has lost its large firms. Yet growing the downtown means more of these firms stay, and some of the existing firms will grow over time to develop a similar occupational picture.

²⁰See: (Howells 2002, Choo 1998, Nonaka 1995).

The CBD supports light industrial businesses and creates net new light industrial jobs.

Constructing, maintaining and serving office buildings creates a wide range of occupations and suppliers. Many of these jobs are not “office” tasks, but rather jobs in construction, distribution, installation, maintenance and manufacturing. Further, if an area is rezoned from light industrial to office uses (and becomes built out as a dense office district), the area will likely produce more light industrial jobs than the prior zoning. This is due to the far higher density of work in an office district relative to an industrial district, and the extent to which the office activity produces tremendous demand for light industrial suppliers.

For example, about 8 percent of office industry employment is in occupations such as construction, installation, repair, production and transportation. Meanwhile, in neighborhoods that are zoned primarily for light industrial businesses that exclude office, 57 percent of the jobs are in these same occupations. Yet, office districts are more than nine times as dense as light industrial neighborhoods. This means that the same amount of land zoned for office would produce a higher number of light industrial jobs, compared to keeping the land for primarily industrial uses.²¹

Expanding the CBD means more unionized jobs in construction and building services.

CBDs have significantly higher unionization rates and pay scales for building services workers than the suburbs office parks.²² In fact, for every 1 million square feet of new office space built in downtown San Francisco’s CBD, there will be approximately 30 full-time janitors, 95 percent of whom would be union. If they are in a suburban office park, only as many as 50 percent of them might be unionized. However, the unionization rate would fall further in the exurban and newly emerging suburban office districts, such as Vacaville. This is a similar situation for building trades union workers, who construct and maintain the office buildings in the CBDs and many nearby suburbs but do not build office buildings in the more distant and emerging office districts. In short, more jobs in a CBD means more union workers — which means that most janitors and construction workers will have higher pay and benefits than they would in other places.

²¹ This analysis is based on information in the San Francisco Office of Economic Analysis “Eastern Neighborhoods Area Plans: Economic Impact Report.” The analysis found that office development in the eastern neighborhoods could yield 130,477 total jobs while strict industrial protection zoning would only yield 14,280 total jobs (or 9.12 times fewer jobs). Put another way, restricting office development on the same land would produce 2,241 fewer industrial jobs if it were zoned for industrial use. Of all the occupations, only construction would see more employment on the same land under a more restrictive industrial zoning compared to one that supports more office use. See:

[www.sfgov.org/site/uploadedfiles/controller/oea/081152_economic_impact_final\(1\).pdf](http://www.sfgov.org/site/uploadedfiles/controller/oea/081152_economic_impact_final(1).pdf).

²² Source: Interview with former SEIU 1877 employee. See also: Bay Area Maintenance Contractors and Service Employees International Union (SEIU), Local 1877 (2003). <http://digitalcommons.ilr.cornell.edu/blscontracts/569/> Note that the higher unionization rate for janitors in the cities is the result of a long history of investment by unions in the CBD. While unions are still working to unionize suburban janitors, the unionization rates and wage scales are not as high as in the CBD.

THE CONSTRAINTS:

We are running out of capacity in downtown San Francisco to accommodate much new employment growth.

Downtown San Francisco, as currently planned and regulated, is almost built out. That is, we have little land left to add office space under current zoning. At the same time, our transit system is operating at or near capacity at the key Embarcadero and Montgomery BART stations, and it faces other limits in the near future. If we agree that we need to grow downtown San Francisco in order to slow regional job sprawl and increase regional transit ridership to work, we must understand these constraints and work to resolve them.

The Zoning Constraint: Downtown San Francisco is running out of zoned space for jobs.

Principles that governed growth in downtown San Francisco

As a city, we have made a decision through zoning to limit office growth downtown. Under current zoning, downtown San Francisco has nearly reached its build-out. There is zoned capacity for between 4 million and 13 million square feet of additional office space. At the low end, this is equivalent to three buildings the size of the 52-story Bank of America building or five buildings the size of the 42-story building at 50 Fremont St. In order to accommodate job growth for the next generation, we will need to reconsider and modify some of the principles that have guided the growth of our downtown for the past generation.

A number of key concepts — historic protection, skyline sculpting, building form, street-level livability and sunlight, as well as the creation and promotion of new downtown high-rise residential neighborhoods — govern our current downtown planning. These principles have shaped the downtown we know today.²³

1. Keeping office buildings out of the neighborhoods north and west of downtown.

Our downtown plan and zoning codes permit high-density employment and office uses only in certain portions of downtown. We currently restrict dense office uses from most areas immediately adjacent to downtown. North of Market, we have restricted growth west of Kearny towards Union Square or into the Tenderloin. We have restricted office growth north of Washington Street into Chinatown, Jackson Square and the northern waterfront. In South of Market we have restricted growth to the south and west as well.

If the city had not imposed such restrictions, many more office buildings could have been built in these adjacent neighborhoods. SPUR accepts these principles of protection and does not want to reopen the question about preserving Jackson Square, Chinatown or the Tenderloin. We believe those neighborhoods should remain outside of the office core. Instead, we want to explore other parts of the downtown where the office district could expand.

2. The urban form restrictions: “skyline sculpting.”

The urban design guidelines in San Francisco cover much more than building form. They also are based on principles related to the shape of the city’s skyline from various vantage points. These principles affect

²³ For more information on the Downtown Plan, see San Francisco’s Downtown Plan: Landmark Guidelines Shape City’s Growth, www.spur.org/documents/990801_article_03.shtm. To read the Downtown Area Plan, see www.sfgov.org/site/planning_index.asp?id=41405.

growth by specifically reducing the potential for buildings in key places where the skyline is supposed to have “valleys” or “saddles” (such as Folsom Street).

3. The building form restriction: floor area ratio.

In addition to height restrictions, the key variable shaping a building’s size and density is its “floor area ratio.” The FAR is the ratio of the total floor area of a building to the size of the parcel of land on which it is built. For example, an FAR of 5-to-1 would allow a building that is five stories tall if it takes up the entire parcel, or 10 stories tall if it occupies half the parcel.

Currently, FAR limits in the office core vary by parcel, with the highest being 18-to-1. The FAR limits in many ways are more restrictive than the height limits, and prevent many buildings from achieving their height limits.

4. The annual cap on office space.

Under the provisions of Proposition M, which city voters approved in 1986, San Francisco limits the amount of new office space to 950,000 total square feet per year (875,000 square feet of “large” office space).²⁴ Put another way, Prop. M limits office job growth to approximately 3,500 new jobs per year.²⁵

There is a long history of divided opinion about growth in San Francisco. In the 1970s a series of failed measures at the ballot box attempted to downzone downtown (Proposition T tried for an 80 foot height limit in 1971, Proposition P sought a 160-foot height limit in 1972 and Proposition O put forward a limit from 130 to 260 feet in 1979).

In 1985, in an effort to get the Downtown Plan through the Board of Supervisors, Mayor Dianne Feinstein’s administration proposed an annual limit of office growth for three years based on an economist’s projection of demand of 950,000 square feet per year. In November of 1986, the voters approved Proposition M at the ballot, making the annual cap permanent.

It was the first annual limit on high-rise office development in the United States.²⁶ Proposition M limited the development of new office space in San Francisco to a maximum of 950,000 square feet per year, with 875,000 of that in large high-rise office buildings (or slightly less than two Transamerica Pyramids).

One of the impacts of Prop. M is that it has leveled out the boom and bust cycles of the local real estate market. As a result, San Francisco has experienced less dramatic real estate busts since its passage because it limits the market’s ability to overbuild during economic booms. At the same time, it has driven up the cost of rents and sent a signal to the regional marketplace that San Francisco is not interested in significant job growth and development. As rents rise dramatically during the boom times, many smaller firms are forced out of the city, often not to return. This suggests that the main beneficiaries of the supply limitations are the existing landowners and building owners, as opposed to the building tenants and future employers seeking to form or expand into the city.

²⁴ Proposition M, passed in 1986, stipulated that San Francisco could add only 950,000 total square feet of office space each year, with 875,000 of this in large office buildings. If less office space were built in a single year, the space would be added into a bank. However, if an office building is converted to another use (such as residential or hotel), this square footage is not added back into the bank of allowable Prop. M office space.

²⁵ This is based on assuming most job growth in large office buildings, and 220 to 250 square feet of office space used per worker.

²⁶ Brad Paul, *Proposition M and the Downtown Growth Battle*, SPUR newsletter, July 1999, www.spur.org/documents/990701_article_04.shtml.

In the future, it will not be possible to maintain our 16 percent share of regional employment without building more than is allowed under Prop. M. If we want to reduce regional job sprawl, the Prop. M growth cap must be amended.

5. The market limitations on planners who cannot compel landowners to build to the plan.

The final limitation on the amount of space built in San Francisco is less a planning principle than a reality of city planning in a market environment. The market, via the developers, lenders and potential tenants decides how much space to build on each parcel, not city planners. And there are few tools to compel a developer to build up to the allowable zoning on a site.

This results in situations where buildings have been proposed, financed, and built that were far smaller than the allowable zoned capacity. A number of recent and future proposed buildings did not maximize their height and bulk potential. The aggregate impact of these decisions is the lost potential of millions of square feet of office space. The result is that over recent years, key downtown sites accommodated far less job space than what was planned or expected.²⁷

From a planning perspective, some of these sites could be deemed “lost opportunities.” Yet because the buildings ultimately were leased, and the developer and lenders were able to recoup their money at a profit, they often are deemed financial successes. As a result of the intertwined failures of real estate and banking in 2008-2009, there may be increased pressure in the future to “right size” speculative office projects to match likely absorption rates — meaning lenders may force developers to build smaller office buildings to reduce their risk. This could lead to even more projects not being able to take advantage of their theoretical zoning potential. The tension between the realities of the real estate market and the goals of planners will continue to be a challenge.

6. Promoting the creation of a mixed-use downtown, or “central social district.”²⁸

The office core and its expansion into the South of Market was conceived to be developed predominantly with office space, with new residential areas created adjacent to but not within the office district. Residential uses were not prohibited, but economic feasibility strongly favored office use, so it was not considered necessary to control the extent of residential development that would be permitted in the office core.

This began to shift in the 1990s, when high-rise residential development became more economically feasible while the office market was still rebounding from a large vacancy rate from the 1980s. As a consequence, since the late 1990s many sites that would have made prime sites for office development have been developed with housing.

Since then, office construction downtown has accounted for a far lower share of total uses compared with non-office uses. Between 1985 and 1989, new office space accounted for 93 percent of all new projects built downtown. Yet from 1994-2002, only 43 percent of new projects downtown were for office use.²⁹ Of the new projects built from 1994-2002, retail and visitor uses were 26 percent, residential 17 percent, and cultural and institutional uses 14 percent. Some of the new developments included the Metreon, the San Francisco Museum of Modern Art and the Yerba Buena Center for the Arts. From 2000-2006,

²⁷ *The prime example of buildings not fully utilizing their zoned potential is the 10 story Foundry Square buildings at the corner of First and Howard Streets. The four sites each could accommodate buildings three to four times larger than what was built.*

²⁸ *The concept of a “central social district” replacing or eclipsing the traditional central business district was identified by Urban Land Institute senior fellow and former Indianapolis mayor William H. Hudnut III. See:*

<http://www.uli.org/News/PressReleases/Archives/2003/2003PressReleases/Intown%20Housing%20Demand%20is%20Steady%20Fueled%20Mainly%20by%20Young%20Childless%20Professionals%20Some%20Empty%20Nesters%20Experts%20Say.aspx>

²⁹ *San Francisco Planning Department, Downtown Monitoring Report, 2004, www.sfgov.org/site/uploadedfiles/planning/Citywide/pdf/Chapter_percent20Two.pdf.*

downtown San Francisco added 780 new units per year, or 936,000 square feet of residential space each year, based on an average of 1,200 square feet per unit. In the future, there are plans for more than 9,300 additional housing units in downtown, which is equivalent to approximately 11.2 million square feet of space.³⁰

Yet from the beginning of 1997 until the middle of 2008, leasable office space in downtown San Francisco increased by less than 3 million square feet. While downtown had new development of approximately 5 million square feet, some office space was lost due to conversions from existing office space to housing. These conversions not only reduced the total supply of office space, but also represented a loss of more affordable office space, as most conversions took place in older office buildings.

As a result of these changes, downtown San Francisco increasingly has become a “central social district” of entertainment venues, hotels and residential uses. The growth of these other uses has begun to affect the expansion of the central business district. Some of the clearest examples of this shift are the new residential or hotel developments on sites that historically had been expected to developed for office use. The Four Seasons Hotel on Market and Grant streets, the Ritz Carlton Hotel/Residences on Market and Kearny streets, and the Millennium Tower at Mission and Fremont streets are three key examples of the Central Social District impinging on the office core.

This change in downtown was partly the result of a planning consensus arguing for creating a more mixed-use office core incorporating housing, entertainment and other uses. Proponents of this change argued that building a variety of uses in the traditional CBD would enliven the district, and in the process reinforce a smart-growth principle calling for the creation of transit-oriented neighborhoods.

The CSD concept also has been expressed through the City’s rezoning of the areas immediately south of the Transbay Transit Center into new, almost exclusively residential neighborhoods. These two neighborhoods (Transbay and Rincon Hill) could add 3,100 to 6,600 more units of housing on sites that otherwise could be used for office buildings.³¹ While Rincon Hill had been considered a residential area in the Downtown Plan, encouraging the creation of new residential neighborhoods in areas immediately south of the office core has limited the amount of potential employment growth.

Unless changes are made, the proposed new development in downtown will continue this trajectory of downtown becoming more of a central social district than a central business district. As of 2008, there is just more than 11 million gross square feet of residential uses approved or proposed in downtown, compared with only 2.6 million gross square feet of office uses.

In addition to the emerging conflict between a traditional CBD and a more mixed-use CSD, the rise of a downtown CSD — particularly the residential component — may have an unintended consequence of new residents becoming opponents of future development because of traditional concerns about traffic and views. Transit-oriented downtown residents becoming NIMBY opponents of either new downtown jobs or new housing is a new, unexpected troubling and ironic phenomenon.³²

³⁰ *Downtown San Francisco: Market Demand, Growth Projections and Capacity Analysis*. Seifel Consulting, Inc. Prepared for the San Francisco Planning Department. May 2008.

www.sfgov.org/site/uploadedfiles/planning/City_Design_Group/R_TransitCenter_051308_Final.pdf

³¹ San Francisco Planning Department, *Downtown Monitoring Report*, 2004,

www.sfgov.org/site/uploadedfiles/planning/Citywide/pdf/Chapter_percent20Three.pdf

³² *The concern about downtown residents becoming NIMBY opponents to new development historically also has been a big concern for nighttime districts. South of Market clubs faced increasing threats, and many shut down throughout the 1990s with*

Future outlook under these principles

Many of these six principles and concepts were codified in the 1985 Downtown Plan, one of the landmarks in American planning history and the document that, along with Proposition M, brought about a long-standing truce in the downtown growth wars. In many ways, the plan has been fulfilled. We believe it is now time to create a new Downtown Plan that builds on the past; incorporates new insights into placemaking, economic development, and sustainability; and lays the groundwork for another quarter-century of city-building.

How much space do we have left for office buildings?

By the end of 2008, there were nearly 111 million square feet of leasable office building space in the entire City of San Francisco. Downtown San Francisco had approximately 83.5 million square feet of this space. From 1997 to 2008, San Francisco built 8.1 million square feet of new office space with 5.2 million square feet of it going downtown.³³ Yet, after taking into account the loss of office space, mostly due to conversions from office to residential, net leasable space in the past decade only grew by around 5.7 million square feet citywide, or 2.2 million downtown. This is an average increase of about 520,000 square feet per year citywide or 200,000 downtown. This rate of growth is far less than between 1969 and 1981 when San Francisco added an average of 1.7 million square feet per year.

Though the rate of growth has slowed in recent years, there is still a limited and dwindling capacity for the additional buildings and space under current zoning. The San Francisco Planning Department recently analyzed the number of potential sites downtown that could support new development. Of the 3,250 parcels within the downtown — an area that includes both the C3 office district and adjacent areas that allow some office — they identified 806 sites that are undeveloped or built at less than 30 percent of their zoned potential. These sites are considered “soft sites” with the potential for redevelopment.

Using this approach, the Planning Department and Seifel Consulting identified 26.8 million additional square feet of new space (for all uses) that could be built under current zoning on these 806 sites. Yet some of these parcels are in zoning categories that do not allow office uses. When these parcels are subtracted, the future theoretical capacity for office on these sites space drops to 17.2 million square feet, or 62 percent of the downtown total.³⁴

Of this remaining space, 11.9 million is on parcels that allow office as a primary use (C-3, MUO). Another 5.3 million square feet is on space that allows some offices but could not be built entirely as office use.

Applying these further restrictions provides a range of possible downtown office development scenarios under current zoning. The maximum probable amount of office space that could be built under current

the rise of “live-work” and other residential developments adjacent to nightclubs. Given this history, SPUR suggests that the City consider encouraging nighttime entertainment uses alongside office development, both to accommodate these two important economic uses and to encourage foot traffic over a larger part of the day. For example, many nightclubs and bars can make nighttime use of areas that are filled with workers during the day. One way to implement this idea would be to move forward with a Mid-Market Entertainment district. Not only is this area appropriate for more jobs, but also it is also directly on local and regional transit and could thus support more people coming to San Francisco for nightlife without using their cars. This recommendation also assumes keeping residential uses further away from some of the nighttime uses as there has been a history of conflict between historic nighttime activities and new residents. For more information on this concept, see: <http://www.observe-sf.com/>.

³³ Downtown is defined by SPUR as the composite of the Financial District, SOMA, Lower SOMA, South Financial, Civic Center, Rincon/South Beach, Yerba Buena and Union Square office markets.

³⁴ San Francisco Planning Department, *Downtown San Francisco: Market Demand, Growth Projections and Capacity Analysis, 2008*, www.sfgov.org/site/uploadedfiles/planning/City_Design_Group/R_TransitCenter_051308_Final.pdf.

zoning is thus 13.2 million square feet. This is based on the assumption that all of the primary office areas (the 11.9 million square feet) become office and 25 percent of the “office allowed” areas become office (1.3 million square feet).

However, if even some residential uses are built on the land zoned primarily for office, the total capacity drops significantly. For example, if the primary land zoned for offices is built out in such a way that 40 percent becomes office, 40 percent residential, and the remaining 20 percent other uses, and if no offices are built on the other areas, then the total capacity for new offices under current zoning is less than 4.8 million square feet.

Furthermore, not all of the “soft sites” are likely to be redeveloped. Some 29 percent of them (232 out of 806) are subject to some historic designation. Excluding the 8.8 million square feet of capacity on those 232 sites reduces the theoretical capacity of downtown from 26.8 million square feet to 18 million square feet. The historic restrictions also would reduce the office share of the remaining parcels.

In short, under current zoning, downtown San Francisco has capacity for between 5 million and 13 million square feet of additional office space. It will be even less when restrictions on sites subject to some historic designation are taken into account.

When will we run out of land for new office buildings under current zoning?

Whenever planners gaze into the crystal ball of future population changes, we face the dilemma of whether to project forward using past trends (which some call “prediction”) or to postulate scenarios that are better than past trends (which some call “policy-based planning”). On the one hand, we want our growth projections to be realistic; on the other hand, we do not want to give the impression that we are helpless to change trends, because planning can very much shape the reality of the future. In this paper, SPUR wrestled with these questions as we tried to figure out how many jobs might reasonably need to be accommodated within walking distance of the transit infrastructure in downtown San Francisco.

The projections most used in local planning come from the regional planning agency the Association of Bay Area Governments. With biennial updates, ABAG’s projections are increasingly envisioning a Bay Area with more population and jobs in existing urbanized areas. The Projections 2009³⁵ are proposing an even bigger shift to the existing cities than prior projections from 2007 and 2005.

Using the ABAG assumption, the Bay Area will gain 1.62 million new jobs between 2010 and 2035, a 45 percent increase from 2010. Where those jobs go is the big question, and ABAG has offered two scenarios.

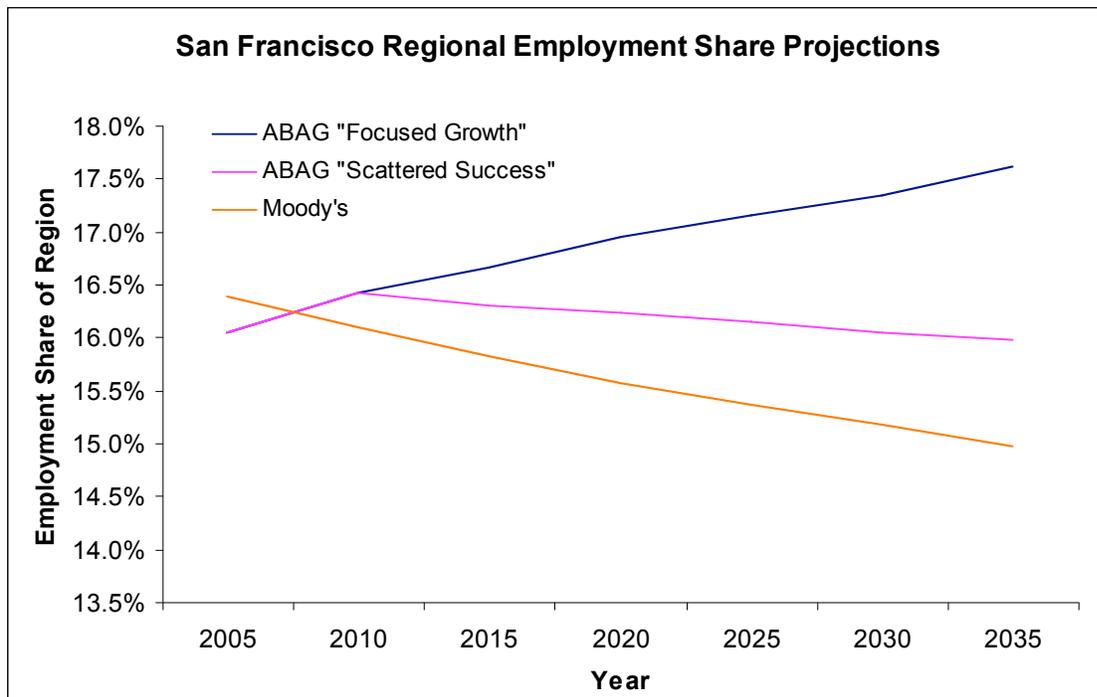
The “Focused Future” (that is, smart growth) set of job and population growth projections for the region projects that San Francisco would add nearly 330,000 more jobs between 2010 and 2035, a growth of more than 60 percent. This projection is based on San Francisco capturing just more than 20 percent of the new jobs created in the region between 2010 and 2035. As a result, according to these projections San Francisco stop its historic decline of regional jobs and see its share of regional employment grow slightly from 16.8 percent to 17.6 percent.

³⁵ *Association of Bay Area Governments, Projections 2009, www.abag.ca.gov/planning/currentfest/.*

ABAG has also proposed a “Scattered Success” vision, which projects San Francisco slightly reducing its share of regional jobs from 16.4 percent to 16 percent. Under this scenario, San Francisco captures just less than 15 percent of future jobs in the region, yet still adds more than 242,000 jobs between 2010 and 2035.

Other analysts are not as optimistic about either regional growth or San Francisco’s ability to capture a growing share of regional employment. Moody’s financial research and analysis firm projects that private sector employment in the Bay Area will grow by 28 percent between 2010 and 2035, an increase from 2.97 million to 3.81 million. Moody’s also projects that San Francisco will grow by only 21 percent as it captures 11.6 percent of future jobs, and will see a slight decline in its regional share from 15.4 percent to 15 percent.

Figure 9



Source: SPUR Analysis, ABAG Projections 2009 (draft), Moody’s

SPUR used these projections to determine how much potential office space could be accommodated in San Francisco. To translate the overall job projections into space needed for workers in downtown San Francisco, we make several assumptions.

First, we use a Moody’s projection that 71 percent of San Francisco’s future job growth will be in knowledge services. This is based on a projection that private sector knowledge services will be 82,000 of the 118,000 new jobs in San Francisco between 2008 and 2037. While Moody’s total growth projection is lower than other projections, we are using its assumptions about the portion of growth that will come in knowledge services, as this is the best proxy of users of office space. Knowledge services include financial activities, information, and professional and business services. Health care, tourism and government, some of which have demand for office space, are not included. However, because not all knowledge services workers will be located in offices either — some are self-employed and work from

home — we are reducing the percent of the future workforce that is likely to need office space from 71 percent to 65 percent.³⁶

Second, we assume that each new office worker will need approximately 275 square feet of office space. Yet, to account for the vacancy rates of buildings, we need to estimate for a higher space usage per worker. If we assume about a 9 percent vacancy rate, this translates into 300 square feet per worker. This is how we turn the job growth figures into a total citywide need for new office space. This then translates into a range of San Francisco citywide office space needs between 2010 and 2035, from more than 17 million to nearly 59 million square feet. Others have argued that office demand per worker is 300 square feet. We maintain the slightly more conservative assumption as a counterbalance to the more aggressive assumption in the first concept that 65 percent of all future job growth will be in offices.

Third, we assume that downtown San Francisco in the future will capture the same share of citywide office space in the city as it has today, which is 73 percent. We then assume that 73 percent of the projected office growth will go to downtown San Francisco.

Using these three assumptions, we translate various job growth projections into potential office space needs in downtown San Francisco between 2010 and 2035. Based on several projections, the range of needed office space in downtown San Francisco between 2010 and 2035 is from about 14 million square feet to nearly 47 million square feet. On an annual basis, this works out to between 560,000 and 1.8 million square feet of office space. The lower amount is similar to what downtown San Francisco has captured in recent years, while the higher amount is similar to how much downtown captured in the period from the mid-1960s until the early 1980s. For the sake of comparison, the 52-story Bank of America building is 1.5 million square feet of office space, while the 26-story office building at 101 Second St. is just less than 400,000 square feet.

Figure 10

CONVENTIONAL VS. SMART GROWTH EMPLOYMENT PROJECTIONS FOR SAN FRANCISCO				
	TOTAL NEW JOBS IN SF BETWEEN 2010 AND 2035	TOTAL CITYWIDE OFFICE WORKERS	TOTAL CITYWIDE OFFICE SPACE NEED (IN SQ. FT.)	TOTAL DOWN- TOWN OFFICE NEED (IN SQ. FT.)
Moody's	96,118	61,900	18,570,040	13,556,129
ABAG Scattered Success	242,300	156,041	46,812,360	34,173,023
ABAG Focused Future	328,200	211,361	63,408,240	46,288,015
ABAG 3rd Scenario 2009	298,100	191,976	57,592,920	42,042,832

Source: SPUR analysis, ABAG Projections 2009, Moodys.com projections

Whichever projection is used, they all point towards greater demand for office space over about 7 to 15 years than we have capacity for under current zoning (which is between 4 to 13 million square feet).

While the length of real estate cycles — both downturns and upticks — will ultimately shape how quickly the demand is met, unless more land is made available for new office development, downtown San

³⁶ This reduction of six percentage points is based on the fact that 20 percent of the workforce is self-employed and one-third of all self-employed workers work at home ($0.33 \times 20 = 6.6$).

Francisco will run out of land for new jobs. This will then shift the burden of job creation to other areas of the city and region that have significantly worse regional transit service.

However, since this is a normative planning exercise, we are making an assumption that the outcome we want is less regional job sprawl, not more. That means that we want San Francisco to capture a larger share of regional jobs than the city has captured in recent years. But as we've identified, under current zoning we do not have space to accommodate sufficient growth to change these regional trajectories.

Ultimately, regardless of whether San Francisco adds 100,000 or 350,000 jobs over the next generation, all projections point to the city adding significant new employment. The full extent of growth in San Francisco relative to the rest of the region will, of course, be driven primarily by policy decisions made in San Francisco and other communities in the region over the next few decades.

What About Housing?

SPUR also recognizes that as San Francisco adds jobs, we will undoubtedly need to build significant amounts of housing. The ABAG projections used in this report assume a large increase in population in San Francisco, far beyond what has historically been built. SPUR supports these smart growth policies and believes that we should accommodate the housing and population projections.

The ABAG smart growth projections are based on a regional view of the best places for both housing and jobs. As a result, San Francisco scores high on both accounts as a place where new residents and workers can go with the least impact on the natural environment. All development in San Francisco is “infill” and residents and workers in San Francisco drive less than their counterparts in other part of the Bay Area.

The projections are not, however, based on the concept of a “jobs housing balance.” That is, we do not assume that San Francisco will have to house all the workers of the new jobs it creates. This is the nature of being an employment center. SPUR applies this approach to assume that San Francisco would need to provide housing to accommodate approximately 40 percent of the projected new employees in downtown. This is based on the current share of downtown workers who reside in the city.

This assumption leaves an additional 60 percent to be housed elsewhere in the region. We argue that with upgrades in the regional transit system, San Francisco should be able to accommodate this many additional jobs because the catchment area — that is, the area where the people who work in downtown San Francisco live — will expand in the East Bay and the Peninsula. Without such investments in regional transit, it will more difficult to house the new employees in these other parts of the region and bring them into San Francisco on transit.

Yet even without such regional transit investment, we would still see an increase in San Francisco housing demand in any scenario, as that is what has been occurring for the past decade with minimal job growth. Therefore, regional transit improvements are good for both housing and jobs.

The Transportation Constraint: Our regional transportation system of roads and trains is nearing capacity at key points in our downtown.

Just as San Francisco is running out of land to add new office buildings, we also are running out of capacity on our transportation system. Adding capacity is necessary in order for downtown San Francisco to grow.

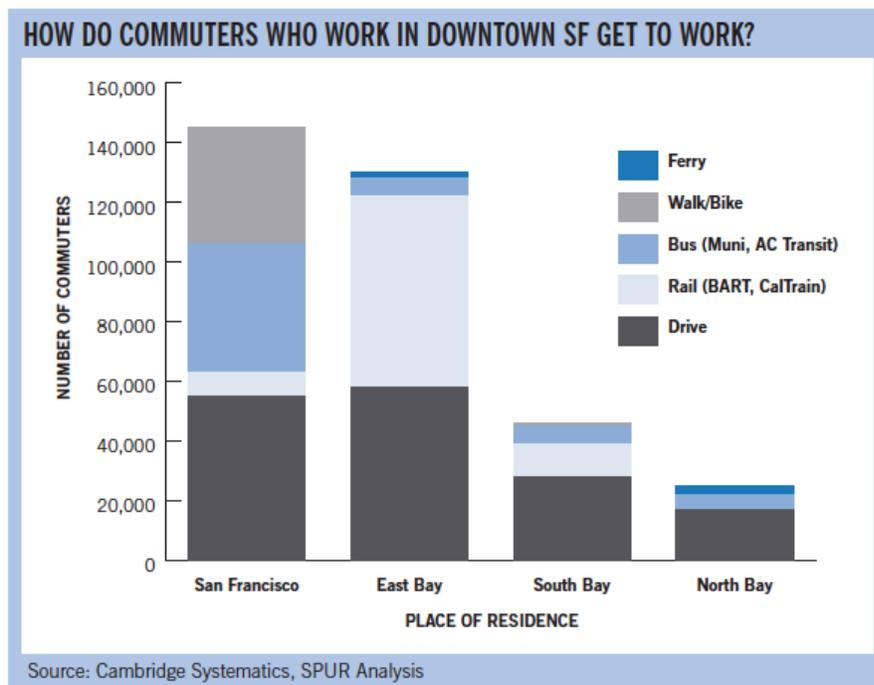
Understanding transportation capacity requires a review of the constraints imposed by each means of transportation and by the directions from which commuters arrive at their jobs, as well as when people travel to and from work.

How do people get to work in San Francisco today, and where are they coming from?

Today, there are approximately 350,000 employees in greater downtown San Francisco. This is an area that extends from China Basin (Townsend Street) in the south to 11th Street and Van Ness Avenue in the east, and along the waterfront north to Chestnut Street. Of these commuters, about 148,000 arrive at work on transit, and about 40,000 via walking or biking. The remaining 158,000 (45 percent) arrive by car. This makes downtown San Francisco the least car-oriented job center in the entire region.

Among all the people who work in downtown San Francisco today, 42 percent live in San Francisco, 38 percent live in the East Bay, 13 percent live on the Peninsula or in the South Bay, and 7 percent live in the North Bay counties of Marin and Sonoma.

Figure 11



As we add new jobs downtown, we need to ensure that the new employees can get to and from their places of employment without adding unneeded congestion and pollution. Given the focus of this report

on applying the transit-rich CBD model of an employment center as part of our local response to climate change, we need to ensure that as few employees as possible arrive via private automobile. We can do this easily by policy — by favoring transit investment over highway expansion.

In particular, given that about half of employee trips into downtown occur in the peak hour of the day, we need to make sure that we have sufficient capacity during this peak hour when our system is most constrained. The following analysis is based on ensuring sufficient capacity to capture demand at the peak hour.

Based on current ridership experience and forecasted trends, SPUR assumes that travel direction patterns into downtown San Francisco in the future will be very similar to what they are today.³⁷ We assume that about 40 percent of projected work trips into downtown San Francisco are from people who live in San Francisco, and another 40 percent of these trips are from the East Bay.³⁸ The remaining 20 percent of trips are roughly divided between the South Bay/Peninsula and the North Bay.

The commute flows into downtown in the future will be affected by the capacity constraints of the transit system.³⁹

Implications for East Bay Commutes

Today, there are 130,000 commuters who come to downtown San Francisco from the East Bay. The analysis in this section is based on the East Bay commute to San Francisco growing to 185,000 per day in 2030, or about 30,000 additional peak hour commuters.

The vast majority of these 30,000 additional peak hour commuters are funneled through two facilities: the Bay Bridge (drivers and buses) and the BART Transbay Tube. Ferries are a small share of peak hour commutes and will continue to be a small share. The capacity issues are different for the Bay Bridge and BART system, but both have strict capacity limits.

The Bay Bridge

For the Bay Bridge, five lanes in each direction create a theoretical capacity of about 10,000 vehicles in each direction. With carpooling, the total number of commuters approaches 23,500 trips. Even today during the morning and afternoon peak commute time, there are more drivers than spaces on the Bay Bridge (that is, demand exceeds this supply of 10,000 vehicles). As a result, Caltrans has created a metering system at the Bay Bridge to ensure an orderly spacing of vehicles during congested times. This also allows buses and other high occupancy vehicles to bypass the metering, giving transit a time saving compared to automobiles. On the San Francisco side, there is gridlock on city streets, as the Bay Bridge is at capacity and cannot handle all the cars from the city trying to get onto the bridge. The onramps in San Francisco function like metering lights in the East Bay.

Even if carpooling on the bridge were to increase beyond current levels, San Francisco cannot accommodate more vehicles on the street in the peak period regardless of origin. With proposed and

³⁷ We assume San Francisco only maintains its current share of regional jobs (ABAG's "Scattered Success" vision from *Projections 2007*). Even if San Francisco were to capture a greater share of regional growth, we see no reason why the share of commuters between San Francisco, East Bay, North Bay and Peninsula/South Bay would change much, absent significant policy changes.

³⁸ This is based on a slightly faster rate of growth for housing in the East Bay relative to San Francisco.

³⁹ The analysis is based on San Francisco retaining its share of regional jobs. To the extent that San Francisco wishes to capture a greater share of regional jobs and is able to do so, the capacity constraints become problems even sooner.

planned development on existing surface parking lots as well as current restrictions on parking in new buildings, there will be fewer places to park the vehicles anyway. As a result, carpooling has limited effectiveness as an access strategy. To the extent that we reduce the number of parking spaces in downtown, carpooling functions more as an interim solution to expanding capacity.

Further, if we wish to further increase transit ridership into downtown San Francisco, we should consider bus-only lanes on the Bay Bridge. If these lanes were carved out of existing lanes headed the same direction, they would further reduce capacity for vehicles. However, if they became contraflow lanes on the opposite deck, they would only reduce capacity for the opposite traffic flow which does not have the same peak demand.

Buses / Transbay Transit Center

Fortunately, we can increase regional access to downtown San Francisco with the new Transbay Transit Center that will replace the current Transbay Terminal. The new Transbay Transit Center will have a practical capacity of about 350 buses per hour. Today, about 100 East Bay buses per hour use the existing Transbay Terminal. The new Transit Center could result in total capacity of about 18,000 passengers per hour, an increase of about 15,000. Based on the assumption that peak commuters are 50 percent of the daily commuters, the new Transbay Transit Center alone could accommodate an increase in workers for an additional 8.25 million square feet of office space.⁴⁰

Unfortunately, it will not be possible to take full advantage of this new transit capacity if the additional buses are stuck in traffic on the Bay Bridge. As demand increases, most traffic models predict that the congestion at the Bay Bridge toll plaza will expand into the I-80/I-580/I-880 junction. While the transbay buses will be able to bypass the toll plaza congestion using HOV lanes, Caltrans will likely shift the congestion onto the bridge (to avoid backup to the other freeways. They will accomplish this by advancing the metering rates. This would then slow bridge traffic more, and will subject Transbay buses to delay and long scheduled times.

To enable the transbay buses to flow quickly on an increasingly congested bridge (and thus make full use of the added capacity), SPUR recommends establishing a bus-only peak-hour contraflow lane. A “contraflow lane” means that when most traffic is heading out of San Francisco, a lane would be set aside for the exclusive use of transbay buses heading in the opposite direction, into downtown San Francisco.

BART

Rail capacity can be thought of as line capacity (the ability to move trains with passengers along a rail corridor in one direction), station capacity (the ability to process passengers through a destination or origin point), and access capacity (the ability to get passengers to the stations). For BART, the capacity concerns are twofold: total ridership along the line and at the stations.

For the purposes of this discussion, access capacity is not considered. In the East Bay, improvements to bus access in concert with expanded bicycling to stations and new transit-oriented development near to the stations can substantially increase access and total riders on the system. In San Francisco, most BART passengers walk to stations, so access to the stations is not an issue.

⁴⁰ This is based on 15,000 new peak hour trips and 30,000 total new daily trips into the Transbay Transit Center. Based on the assumption that each worker requires 275 square feet of office space, this transit capacity for 8.25 million square feet. In reality, not all workers from the East Bay will work in the same building. However, we are trying to calculate how many new workers can access downtown San Francisco on transit with capacity improvements and then how much office space they will take up.

When dealing with transit line and station capacity, balance between station and line capacity is an important objective, since an unbalanced system with more station capacity than can be used on the line — or vice versa — is inefficient and wasteful.

BART has a maximum one-way line capacity of about 33,000 passengers in each direction.⁴¹ Currently, BART carries about 18,000 passengers in its peak hour between the East Bay and San Francisco. BART therefore has a latent potential capacity of about 15,000 additional passengers per hour from the East Bay. At 33,000 riders per hour, BART would then have the theoretical capacity to deliver approximately 117,000 total daily commuters from the East Bay into San Francisco.⁴²

However, when station capacity is considered, key downtown BART stations reach capacity sooner and we thus may not be able to accommodate this much growth into the downtown under the current system. Station capacity concerns for BART are platform capacity (an afternoon concern as people wait for trains which head both directions) and vertical circulation capacity — that is, the ability to either access the platform from above or exit the platform from below.⁴³ Both platform capacity and vertical circulation — that is, the escalators, elevators and stairs — are very constrained, a particular problem when there are delays.

Today, Montgomery and Embarcadero BART stations are already processing about 9,000 to 10,000 passengers at each station in the afternoon peak hour. Based on platform size, there is essentially no more capacity at Embarcadero when we account for minor delays and assume 5 square feet per person. There is, however, additional capacity at Montgomery to accommodate about 5,000 passengers per hour in both directions (between the East Bay and Peninsula), or demand for 2.75 million square feet of office space. This is because Montgomery station has wider platforms than Embarcadero.

Powell and Civic Center Stations are the same size as Montgomery with far fewer riders. Powell has a theoretical capacity for 8,000 more transit riders in the peak hour. These workers alone could fill 4.4 million square feet of office space. Civic Center can accommodate nearly 9,000 additional peak hour riders, or enough for nearly 4.8 million square feet of office space.

Based on station capacity alone, BART can carry 52,000 riders in both directions in the peak hour, or an increase of 21,700 from today. This is enough to fill nearly 12 million square feet of office space. In order to reach this level of BART ridership, one third of new BART peak hour riders would have to come from within San Francisco or the Peninsula. This is based on the one-way line capacity for BART of 33,000 riders per hour. Since there are already 18,000 riders coming from the East Bay, if we accommodated an additional 15,000 East Bay peak hour riders, there would only be station capacity for an additional 6,700 peak riders.

⁴¹ This is based on 30 trains per hour carrying about 110 passengers per car with 10 car trains. Today, capacity is only 26,000 per hour but could increase to 33,000 with proposed investments such as a new train control system. The line capacity is the same for trains from the East Bay and trains from San Francisco/the Peninsula

⁴² This is based on applying the current ratio of total peak hour trips to total trips. Today there are 18,000 peak hour riders out of 64,000 total, or 28 percent in the peak hour. The new maximum would be 33,000 at the peak hour, for a total daily capacity of 117,000.

⁴³ We do not consider faregate capacity, since BART stations have space to easily accommodate more faregates. Faregate capacity is the ability to quickly enter and exit the paid area.

Figure 12

HOW MANY MORE RIDERS CAN BART ACCOMMODATE AT STATIONS IN DOWNTOWN SAN FRANCISCO?				
	PEAK HOUR RIDERS TODAY	ADDITIONAL PEAK HOUR CAPACITY	TOTAL ADDITIONAL DAILY WORKERS SERVED	TOTAL THEORETICAL OFFICE SPACE THESE WORKERS COULD FILL
Embarcadero	10,000	0	0	0
Montgomery	9,000	5,000	10,000	2,500,000
Powell	6,000	8,000	16,000	4,000,000
Civic Center	5,300	8,700	17,400	
	30,300	21,700	43,400	10,850,000

Note: The assumptions above show a total theoretical "station capacity" of 52,000 riders in the peak hour coming from both the East Bay and the west (San Francisco and Peninsula). This is because riders share the same platform regardless of direction. However, BART has a line capacity of 33,000 riders per hour in any one direction. Therefore, to accommodate the additional 21,700 peak hour riders identified above would require a far higher share of trips on BART coming from the west than under the current system where 2/3 of riders come from the East Bay.

Beyond BART, if we want to accommodate additional growth from East Bay transit commuters, we can make use of the Transbay Terminal, which has a total capacity for 18,000 workers in the peak hour, an increase of 15,000 beyond today. This is enough for about 7.5 million square feet of office space.

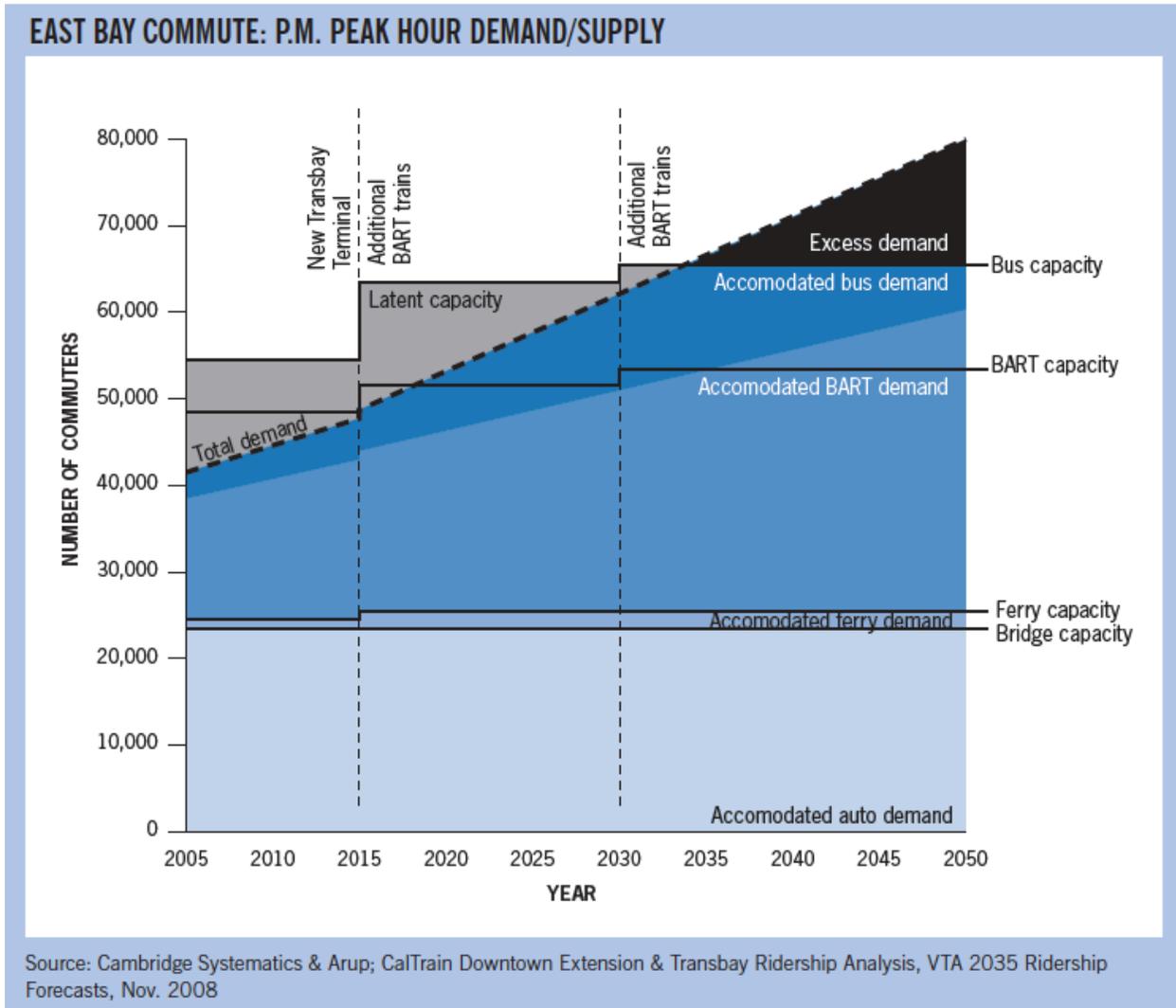
To reach this theoretical capacity of 52,000 total BART peak hour riders and 18,000 East Bay bus riders will require serious management of the transit system. Given the lack of station capacity at Embarcadero and limited capacity at Montgomery, most of the new riders (and thus office development) would have to go to/near Powell and Civic Center BART stations or the Transbay Transit Center.

SPUR believes this shift is possible but the transit portion of it would work best if the East Bay commute were treated as a single system. That is, if there were a single entity responsible for managing all transbay transit service (bus and rail) in a coordinated and complimentary fashion, that entity would have the proper tools to shift riders from one station to another or to the expanded Transbay Transit Center. This entity (most likely BART) could thus balance loads between Embarcadero, Montgomery and Transbay Transit Center (bus) capacity as a "unit," allowing BART line capacity to be used for job development and other destinations near Powell and Civic Center. One way to accomplish this would be for BART to raise prices for exiting at Embarcadero and Montgomery and lower them for bus trips to the Transit Center. This would make use of market based pricing to reallocate demand among downtown transit facilities.

SPUR then believes that if we apply these changes, downtown transit from the East Bay alone can support an additional 30,000 peak hour commuters, or transit riders for an additional 15 million square feet of office space.

After that point, San Francisco needs to have a new transbay rail tube to provide access to the next generation of office development. In the interim period, downtown would rely on BART's latent capacity (with a new train control system) and Transbay bus capacity to meet the year-to-year growth in demand.

Figure 13



Implications for Commutes Within San Francisco

Similar to the East Bay, by 2030 there could be an additional 30,000 new additional peak hour commuters accessing downtown San Francisco from within the city. Currently, transit access is provided by three modes: Muni Metro light rail, Muni buses, and BART.

Given the extensive road network in San Francisco, this section does not assume any capacity constraints for walking and biking. SPUR recognizes that in order to capture a growing share of either mode will require investments.

BART

At present, BART has sufficient capacity at its non-downtown stations (16th Street and all stations west of it) for exiting and entering. Although only 10 percent of BART’s downtown passengers come from San Francisco and 10 percent from the Peninsula (8,000 commuters each), BART’s capacity problems are the same as those caused by the 80 percent of passengers from the East Bay. Embarcadero and Montgomery

Street stations experience the same capacity issues, particularly vertical circulation in the morning peak and platform capacity in the evening peak. Yet San Francisco commuters do not contribute the key source of the capacity issues.

Based on the analysis of the overall BART system, there is sufficient station capacity for an additional 6,700 peak hour BART riders from both San Francisco and the Peninsula. This translates to about 13,000 total workers who could fill 3.5 million square feet of office space.

Muni Metro

The Muni Metro system carries tens of thousands of commuters through the Market Street Subway from its five light rail lines (K, L, M, N, S and T). Muni Metro's capacity challenges principally involve operational challenges, not system capacity. This means that Muni could accommodate more riders on longer trains if it had sufficient drivers, supervisors, and rail cars. There are, however, some more significant capacity problems, which are more difficult to solve.

First, the Market Street Subway is currently scheduled to handle trains approximately every two minutes. However, at Embarcadero Station, where four of the six lines end, the turnaround time is significantly longer. Consequently, a backlog in service is created. If Muni were to run more trains through the tube, it could not necessarily turn them around in time to keep up with rider demand.

Second, Muni could run longer trains through its tunnels. However, if it would run three-car trains, these would be longer than the size of the station platforms in the western neighborhoods and subsequently would block intersections. This limits the ability to use longer trains to add capacity.

Muni Bus

Regarding Muni's bus service, capacity challenges for both diesel buses and electric trolleybuses are also due to operational issues. The Transportation Effectiveness Project, when implemented, will go a long way to increase capacity for Muni through faster, more reliable, and frequent service on its busiest lines. It is critical that the improvements called for in the TEP be implemented to meet the growing needs for transit from San Francisco to downtown.

The most congested bus lines in the Muni system include the 38-Geary, the buses in the Stockton corridor (30, 45) and the Mission/Van Ness corridor (14, 49). The Mission Street corridor's needs are met by both BART and Muni. The TEP calls for increased service, including much more service on express lines, which will be able to handle more loads into the future.

Implications for Peninsula Commutes

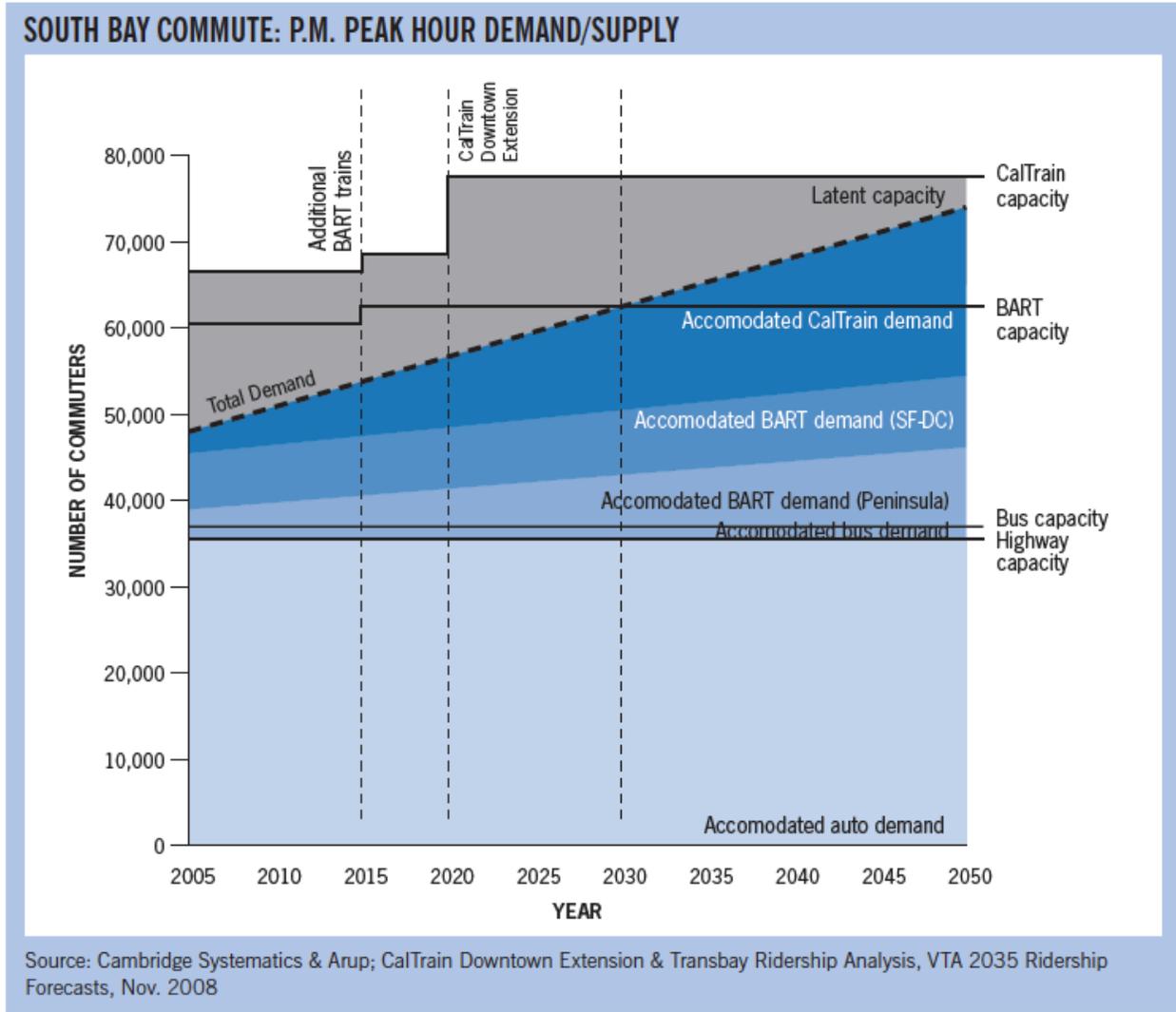
Similar to the North Bay, the capacity on the Peninsula/South Bay transportation system is greater than current and projected demand — to a point. This is based on significant latent capacity on the Caltrain system, the ability to add additional bus service, and new capacity from proposed modifications in the BART train system.

There are 45,000 total commuters from the Peninsula and South Bay into downtown San Francisco. With 28,000 people arriving via car, the transit mode share of these commuters into downtown San Francisco is approximately 37 percent.

BART has station capacity in downtown San Francisco for only an additional 6,700 peak hour riders from both the Peninsula and within San Francisco. Given the theoretical line capacity of 33,000 per hour,

station capacity at the Embarcadero and Montgomery BART stations poses the greatest constraint on BART ridership.

Figure 14



Implications for North Bay Commutes

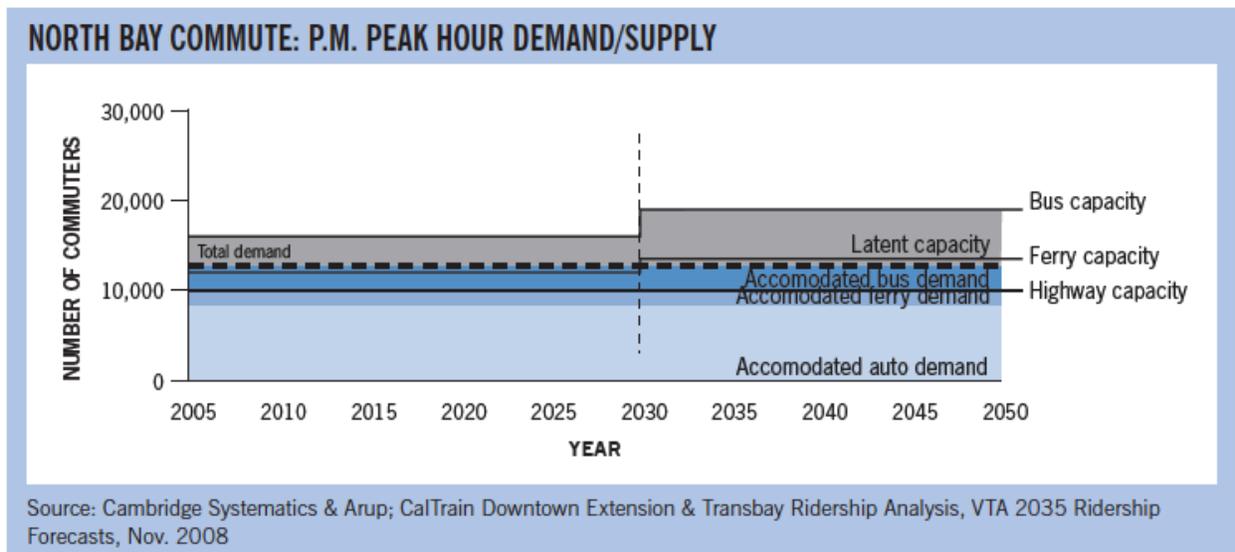
There are 25,000 daily transit commuters to downtown San Francisco that arrive via the Golden Gate Bridge corridor or ferries from the North Bay. The North Bay commute has a transit mode share of 32 percent with 8,000 arriving on bus and 3,000 on ferry.

There is currently excess capacity on this commute flow as peak hour demand is approximately 12,000 trips while capacity is more than 16,000 trips. Capacity on the Golden Gate Bridge is 10,000 commuters based on 2,000 vehicles per lane, 1.25 people per car, and four lanes of traffic. For the Golden Gate Transit bus service, current capacity is 4,000 commuters, based on 80 buses with 50 people per bus. The ferry system has a total peak hour capacity of 2,150 commuters divided between Larkspur (three trips at 450 per ferry), Sausalito (one ferry with 600), and Tiburon (one ferry with 350).

Most future growth in demand coming from the North Bay could be well-served by planned increases in ferry and bus service. Bus capacity could grow to 7,000 trips with an increase from 80 to 100 buses with an average of 70 riders per bus. The ferry system could accommodate up to 3,750 commuters if Larkspur increased to five ferries with 450 per ferry and Sausalito and Tiburon both increased from one to two ferries per hour with an average of 375 commuters per ferry.

In short, the North Bay commute into San Francisco is not a capacity constraint on the growth of downtown. In fact, shifting some of the growth in commuters from the East Bay to new housing built in Marin County could yield additional years of transit capacity into downtown before new infrastructure is needed. The most significant potential source for new housing would be in a redevelopment of the current California State Prison, San Quentin into a community of 10,000 homes with a new ferry terminal that shortens the Larkspur to San Francisco commute from 40 minutes to 25 minutes.

Figure 15



Addressing Transportation Constraints: Next Steps

The regional transportation system brings workers from throughout the region into downtown San Francisco, and the majority of these workers arrive on transit or other non-auto travel. Based on SPUR’s analysis, the East Bay commute into downtown San Francisco is the most constrained. This corridor represents about 40 percent of the area from which downtown commuters originate and will reach capacity over the next 25 to 30 years. It is critical to develop a long-range plan to address this critical corridor — a plan that includes incremental, phased improvements that each are useful on their own, along with the financing stream that will deliver the long-term goal. Within San Francisco, SPUR continues to advocate for improved Muni service and better utilization of the existing facilities, along with a modest program of expansion that builds from the new Central Subway, plus additional bus rapid transit projects and ultimately a new SOMA rail project.

The Peninsula corridor is a critical strategic link, one that San Francisco has ignored for too long. With the proposed Caltrain extension to the downtown Transbay Transit Center, adequate capacity will be available to open San Mateo and Santa Clara counties as part of the city’s residential catchment, while

also connecting South Bay industries and city services. Finally, the North Bay could contribute to the Bay Area's sustainability goals if infill sites are properly developed and well connected to San Francisco and the region.

Overall, the ability to manage growth in the transportation system is contingent on continued high transit ridership and expansion of the walking/bicycling commute patterns, as these are the most climate-friendly means of arriving at work. As a result, the subsequent recommendations are based on accommodating additional transit and bicycle and pedestrian commuters.

RECOMMENDATIONS: How to create the downtown of the future

Planning a downtown for the next generation will require expanding its boundaries and making strategic investments in our transportation system. This new downtown will provide significant new employment opportunities for residents of the city and region, needed revenue for local services, and improved local and regional mobility. It will also help us to reduce the region's reliance on automobile trips to work. SPUR believes that we can build such a downtown in a way that continues our emphasis on livability and other human qualities.

All of SPUR's recommendations on how to secure the best possible future for downtown San Francisco are based on an assumption that at a minimum, San Francisco should retain its share of regional jobs. However, if San Francisco is meet smart growth and carbon emission reduction targets, we need to capture an even greater share of regional office and employment growth. This will involve major changes beyond the level with which San Francisco typically is comfortable. But we think these changes are necessary for both the city and region, and bring great benefits to city residents.

Land use and zoning recommendations

In general, SPUR is calling for focusing office growth within the existing office core, and then in areas contiguous with the core that remain close to regional transit. We reassert the importance of a dense, walkable central business district and call for loosening land use rules that restrict increases in employment density or prevent the expansion of a larger office district.⁴⁴

We are, however, mindful of the urban design guidelines and restrictions that have shaped the form of growth in downtown and adjacent areas. These rules bring sufficient air and light to the ground and make the pedestrian experience a pleasant one. We suggest that many of these principles continue to be applied in an expanded downtown. We also believe some of those measures can be judiciously "tweaked" to accommodate additional employment while still maintaining the quality of the place. None of the core principles of livability need to be sacrificed. We simply disagree with some of the strictness with which they have been applied.

The land use and zoning recommendations are organized around the following concepts:

- Concept 1: Accommodate more office development in the existing downtown office core.
- Concept 2: Expand the high-density office core to contiguous areas.
- Concept 3: Allow high-density offices in areas somewhat removed from the current office core that are both appropriate for office and will have good transit access.
- Concept 4: Continue to promote downtown housing but reduce the competition between housing and office in the office core and on the limited number of sites near regional rail.
- Concept 5: Modify citywide restrictions to ensure that San Francisco can capture a growing share

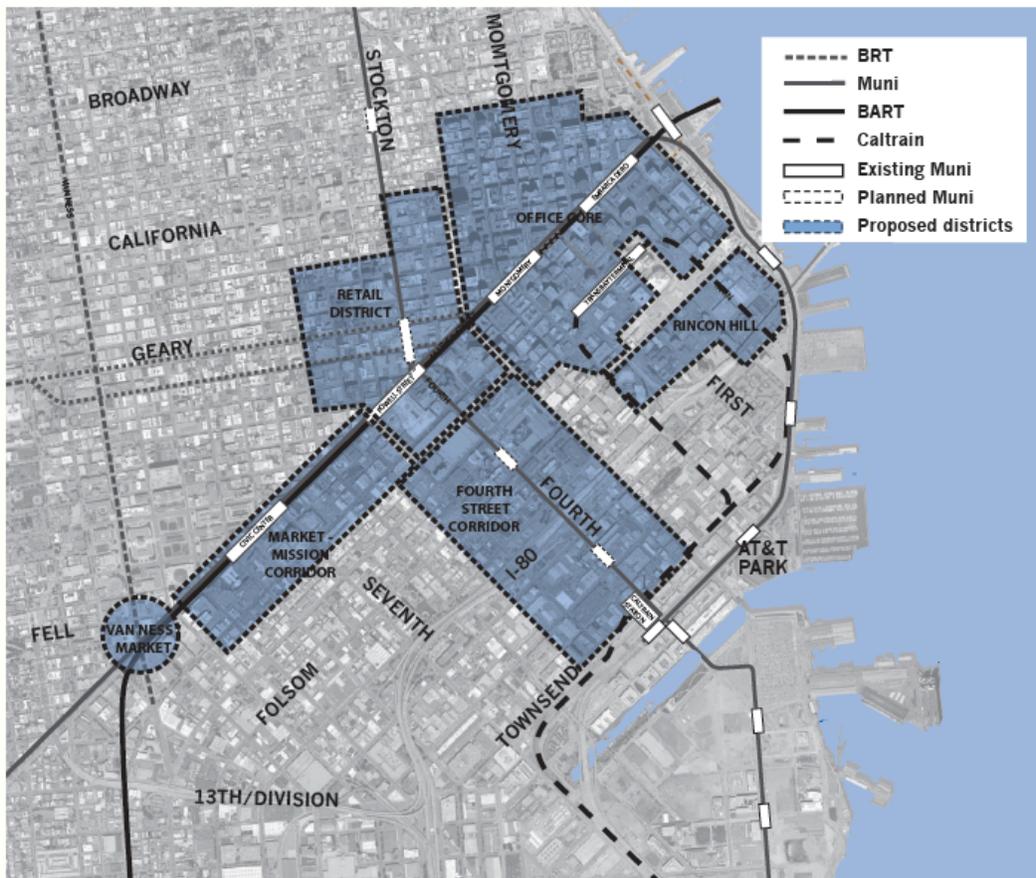
⁴⁴ The key land use rules governing growth in downtown include the following: *Use restrictions* — what uses are allowed on a site or in a district. *FAR (Floor area ratio)* — how much can be put on each site based on the size of the lot. *Height* — how tall can the building be. *Building bulk* — how large each floor plate can be as well as what the outside shape of the building is. *Tower separation* — how close together a tower can be to an adjacent building. *Historic Preservation* — what buildings cannot be removed or modified. *Shadow rules (Prop K)* — how we protect sunlight to parks. *Supply limitations (Prop M)* — how much space is allowed each year. *Parking* — how much parking must a building provide and how this differs among uses and locations. (I think mentioning alleys here is a distraction. We don't mention it again)

of regional employment.⁴⁵

All of SPUR’s recommendations assume that San Francisco will need to revisit its current Downtown Plan. This plan has succeeded, but it needs to be updated and expanded to guide San Francisco in how to meet regional smart growth projections. SPUR urges the Planning Department and City government at large to take seriously the question of where our future jobs will go. In particular, SPUR believes that San Francisco should put as many jobs as possible within a short walk of our regional rail stations, particularly downtown.

The map below serves as a guide for the different sub-areas of downtown where we are recommending land use and zoning changes.

Figure 16



The rezoning of these areas — which include Mid-Market, Fourth Street and Market/Van Ness — will provide San Francisco with the most substantial increase in office capacity, and help the city capture a larger share of regional employment. This would bring more jobs into the city while decreasing the dependence on driving as the primary means of commuting to work in downtown San Francisco.

⁴⁵ We recognize that in addition to these rules set by policy, downtown grows based on market conditions. Sometimes the market conditions encourage one type of use (such as office or residential). At other times, market conditions make it more difficult to build to permitted capacity. We do not believe that simply through changes to zoning will San Francisco suddenly capture an increasing share of regional employment. Instead, it will be market forces — company expansions or relocations — that will be the main determinant for job growth in San Francisco. Because those decisions are beyond the scope of this paper, it is our goal to identify the zoning and transportation changes that must be made as a precondition to be able to capture additional growth.

Concept 1: Accommodate more office development in the existing office core

SPUR agrees with the vision of a dense, walkable office district. We should change zoning rules to accommodate more density within the North of Market and South of Market office core (the zoning categories of C-3-O and C-3-O (SD)). In these areas, office is principally permitted but new development is restricted by height, bulk, FAR, and historic preservation restrictions.

The ideas presented here are consistent with the Downtown Plan, but represent slight modifications based on revisiting some of the policies in that plan and weighing those against today's reality of climate change and the limits of other transit-accessible job locations.

This concept could be realized in the following ways.

Recommendation 1.1: Allow more density on carefully selected sites in the downtown office core.

SPUR believes we can accommodate more development within the existing downtown, and should apply the same planning scrutiny to the rest of the downtown office core as we are currently using in the Transit Center District Plan.⁴⁶ There are, for example, a number of potentially development sites in the office core north of Market Street — the traditional “Financial District” that should be studied. SPUR believes that the allowable floor area ratios — or height and density limits — on these sites should be reconsidered to assure maximum development potential consistent with other design and impact concerns.

There are also a number of sites that have utilized all or almost all of the currently allowable FAR (18-to-1 in the office districts), that could, if the FAR constraint were modified, accommodate an additional tall building. Increasing the development potential of the site may also make it more economically feasible to replace a shorter building with a taller one. Examples include parcels with multiple buildings today where the smaller building was built that way because of FAR restrictions. In other cases, single buildings are built below their allowable height because they have reached their FAR limit before the height limit.

SPUR recommends that the City undertake a complete analysis of all these potential developable sites and determine which sites should be encouraged to develop. Once those sites are determined, the City should reconsider the appropriate height, FAR and other design controls for these sites.

SPUR recognizes that this recommendation will not yield substantial new development opportunities. However, it could provide sites for several additional office buildings in an area already well-served by transit.

Recommendation 1.2: Reassess some of the identified “contributory” buildings in the downtown office core.

The Downtown Plan identified a few areas in the office core that contained enough buildings of some architectural merit that they were made into Conservation Districts. The buildings of greatest individual significance were designated “significant” and their demolition was severely restricted. Other buildings were designated as “contributory.” This meant that they were not individually of great merit, but contributed to the quality and character of the area and warranted some protection. However, unlike significant buildings, the City did not mandate their retention. Many of these contributory buildings occupy sites that could accommodate a much larger building. SPUR believes that the possible harm

⁴⁶ *The Planning Department is preparing a new plan (the Transit Center District Plan) for a part of the downtown office core surrounding the Transbay Terminal. As part of the planning process, the Planning Department identified certain “opportunity” sites for additional development. On these sites, the department has proposed increasing the allowable heights and floor area ratios to accommodate additional office space and residential units. These proposed land use changes are intended to enable taller buildings while still maintaining a pleasant working and living environment.*

caused by loss of a select few of them should be weighed against the gain in job opportunities achieved if they are allowed to redevelop.

As a result, SPUR recommends that the list of “contributory buildings” should be reassessed and perhaps modified.

Recommendation 1.3: Allow taller buildings on some non-“preservation worthy” parcels within “Conservation Districts”.

When the Conservation Districts were created, the allowable heights were reduced so that the height of new buildings more closely approximated the prevailing height of the preservation worthy buildings. SPUR believes it may be possible to protect the scale of the individual buildings worthy of preservation and at the same time allow for more development. We recommend that this is done only in a limited way.

For example, the height limit on most of the sites in the New Montgomery-Second Street Conservation District is 150 feet. Upon closer analysis, it might be determined that the height limit on sites where new building would be allowed could be raised to allow more development without adverse effects. Similarly, the height limit on the west side of Kearny between Market and Pine is between 80 and 130 feet and could be raised.

Recommendation 1.4: Maximize the full use of the finite number of sites still available.

Even with changes to the rules and boundaries, downtown parcels that are near regional rail and appropriate for office will remain a scarce resource. Therefore, to ensure that we maximize the use of each site (within the planned building envelope), SPUR recommends additional rules to encourage full maximization of the site. We recognize that planners have few tools to induce the market to respond to the visions laid forth in plans. Yet, given the limits on space, we recommend exploring the policy of establishing minimum heights and/or floor area ratios for key buildings in the core of the downtown immediately adjacent to transit.

Recommendation 1.5: Encourage the replacement of existing stand-alone parking garages with new office buildings.

There are several above-grade privately owned parking garages in parts of the existing downtown office core. Some of these are within a block of existing Market Street subway stations. SPUR recommends studying the feasibility of replacing some of these structures with new office buildings. This would accommodate more office growth on some of the most transit-accessible sites in the downtown.

Concept 2: Expand the high-density office core to contiguous areas.

Appropriately increasing density in the existing core (Concept 1) will not result in nearly enough space to meet future capacity needs. Yet, SPUR believes that the office core should remain a compact, walkable and dense area. This is one of the reasons for its success. Applying this principle, the most logical places for expansion are into areas immediately adjacent to the current office core. As these areas are already served by high levels of transit, or with transit projects in process, as we expand the office core, the City should continue the parking practices of the Downtown Plan that creates very little parking in downtown commercial developments.

Recommendation 2.1: Continue restrictions on expansion of the high-rise office core into Chinatown, Jackson Square, North Beach, the Northern Waterfront, and the Tenderloin.

SPUR reaffirms the neighborhood protection policies that limited new development in many of the

historic neighborhoods surrounding the office district.⁴⁷

Recommendation 2.2 Allow a limited number of new mid to high-rise office buildings in the portion of the retail district adjacent to the office district.

SPUR believes that Union Square retail district could accommodate higher-density office buildings (with at least one floor of retail)⁴⁸ on a limited number of sites (particularly those that are adjacent to the office district).⁴⁹ There are already a number of tall buildings in the retail district, and the addition of a few more would not compromise the general character of the area, provided that the sites are carefully identified and their increased heights are carefully considered and limited to just those sites.

Recommendation 2.3. Allow more high-density office development in areas adjacent to the downtown office core, which now are primarily reserved for high-rise housing.

There are two planned high-rise residential neighborhoods adjacent to the current office core that could accommodate additional office growth. They are the residential portions of the Transbay Redevelopment Area immediately south of the current office core, and the Rincon Hill area that is just south of the Transbay area.

SPUR believes that some of the residential-only zoning in these two plans should be reconsidered to accommodate some amount of additional employment growth.

Transbay

“Transbay” is the area south of the existing office core and north of Folsom Street, so called because of its proximity to the major transit station known as the Transbay Terminal or Transbay Transit Center. The area freed up for redevelopment by the removal of the Embarcadero Freeway ramps has recently been rezoned as the Transbay Downtown Residential District and has been incorporated into a redevelopment district. The plan calls for some 3,200 units of housing. Office use is permitted on only one site in this district.⁵⁰

While it is desirable to provide some new housing adjacent to downtown (especially the 35 percent of the projected total that would be affordable) we think that this area is in fact part of the office core and should accommodate more places of work. With the construction of the Transbay Transit Center, the extension of Caltrain, and the future high speed rail line, this area is of strategic regional importance. From a regional perspective, it is more important that we have employment uses, rather than residential uses, immediately adjacent to a transit hub, particularly if that use would provide a greater financial benefit for the Caltrain extension.

⁴⁷ The 1985 Downtown Plan changed the zoning of large portions of the Tenderloin to prevent high-rise offices. The prior zoning had been Downtown Commercial, which would have allowed high-rise offices. The new zoning was “North of Market Mixed Use District,” which does not permit high-rise office uses. Similarly, large sections of Chinatown were rezoned from Downtown Commercial to a Chinatown Special Use District that prevented the expansion of the high-rise office core into Chinatown. Before that, Jackson Square and the Northern Waterfront had also been rezoned to prohibit high-rise office uses. SPUR believes these restrictions should remain in place.

⁴⁸ We recognize that the retail district has many buildings with retail at many levels, and thus we would not want to mandate that there should be retail uses only on the ground floor of a new office building. However, the retail district can accommodate additional office employment and some taller buildings without compromising its integrity as a district.

⁴⁹ In 1985, heights in the retail district, which is to the west of the office district, were generally lowered to 80 feet by right, with the possibility of going to 130 feet after special review. The objective was to keep the heights in the retail district relatively low to provide more sunlight to the sidewalks, an important element in the appeal of the area as a shopping district, and to reduce development pressure on smaller buildings with architectural merit. General office use was made a conditional use, and authorities issuing permits must find that the office use will not detract from the district’s primary function as an area for comparison shopper retailing and direct consumer services.

⁵⁰ If this site is built out at the allowable 700,000 square feet of office space, it reduces the total units of housing by approximately 500. Yet, given that office employment is much denser than housing, this one building would accommodate more than 2,500 jobs.

SPUR also suggests reevaluating the distances between tall buildings in the Transbay Redevelopment Plan. The distances are approximately 150 feet in contrast to the existing office core, where the required separation between adjacent buildings is much less: a minimum of 30 feet between adjacent buildings (15 feet from side property lines for each building) up to 300 feet in building height, and tapering up to 70 feet (35 feet for each building) at 550 feet of height and above. SPUR believes this spacing should be reconsidered and reduced to allow more tall buildings (and growth capacity) in this area just south of the current and expanding office core.

Rincon Hill

Rincon Hill, south of Folsom Street, has been designated as a predominantly high-density residential area for some time and the zoning was revised and refined in 2005. Office use is restricted to only one square foot of office for every six square feet of residential. The zoning also calls for slender towers, appropriate for residential use, with a separation between towers of 115 feet.

SPUR believes that this area should become a more mixed-use area. This could be accomplished by reducing the required distance between towers to allow additional buildings, allowing a higher percentage of office use in a mixed use building, or rezoning certain residential-only sites for office buildings. Some of the residential sites, approved for residential but not yet built, have bulk limits that are more appropriate for office use.

Recommendation 2.4: Modify the extent of “skyline sculpting” to allow taller buildings with more square footage.

The current height plan for the downtown office core was designed, among other things, so that the group of buildings, existing and to be constructed would resemble a hill form when viewed from a distance. The recent rezoning of Rincon Hill was also designed to create a cluster of high-rises that resembled another hill tapering down to the north and creating a valley of shorter buildings in between Rincon Hill and the existing office core. The heights in the Transbay residential area were also set to reinforce this “hills with a valley in-between” imagery.

Given the fact that the current downtown skyline is braced at its the northern and southern edges with two of the city’s tallest buildings, the Transamerica Tower and Rincon Hill, and that height of the buildings beyond is dramatically lower, SPUR believes that the “hill-valley” form imagery is somewhat arbitrary and that keeping heights low to create the valley unnecessarily restrains development.

We recognize that there are many tradeoffs in planning. But we disagree about the need to sculpt the skyline. Modifying this concept would allow us to shift job growth to the best place in the region for transit-served jobs.

We do agree with the merit of providing for the city’s tallest building adjacent to the Transbay Transit Center. But we think it is excessive and without merit to have heights step down from there in 100 and 200 foot increments, as is being proposed in the Transit Center Plan.

If we are to continue with an urban form image of the downtown skyline (as viewed from afar) SPUR proposes that we support a skyline that is a series of jagged peaks between the tall buildings at the eastern and western edges with the tallest in the approximate middle.

Concept 3: Allow high-density offices in areas somewhat removed from the current office core that are both appropriate for office uses and will have good transit access.

There are a number of other areas that, while not immediately adjacent to the office core, currently have good transit or will be well served by transit in the near future. These include the Fourth Street corridor, Mid-Market, Fourth and King streets, the Market/Van Ness area, and either the Folsom corridor or the Townsend corridor. Some of these areas are zoned for office but have height and other restrictions that limit their potential for employment growth. In other cases, the areas do not permit offices today, but have permitted office uses in the past — or could be rezoned appropriately to accommodate offices.

Among all of SPUR's land use recommendations, the rezoning of the areas described below will provide San Francisco with the most substantial increase in office capacity.

As zoning rules in these areas are shifted to accommodate more employment growth, SPUR recognizes that parking requirements in new office districts should facilitate development while minimizing vehicle trips.

The following are SPUR recommendations of the areas further from the current core that could accommodate more office development and employment:

Recommendation 3.1: Restore zoning for office development at Market and Van Ness.

Until the Market/Octavia Plan was adopted in 2008, some of the area around the intersection of Market Street and Van Ness Avenue was zoned C-3-G, a high-density downtown commercial district allowing office. While the bulk of the Market/Octavia Plan dealt with lower-density neighborhood commercial and residential areas, the plan area also included the downtown commercial area around Market and Van Ness. In the final plan, this area had height increases on some parcels and height decreases on others. On these parcels, the City also adopted more restrictive bulk controls appropriate for residential use but not office use. Finally, and most significantly, the predominant allowable use on these buildings was changed from commercial to residential. Office uses were restricted to the lower four floors.

While SPUR was one of the key supporters of the Market/Octavia Plan, we recognize that this part of the plan got it wrong. Given our growing concern for where to locate regional job growth and the restrictions on zoned land for office space in the downtown, the Market/Van Ness node remains a desirable and transit-rich setting for more job growth. SPUR suggests that the Planning Department restore the prior zoning for this area, including changes to use and bulk that would allow office buildings to be constructed on these parcels.

Recommendation 3.2: Increase heights along the Mid-Market/Civic Center/Mission Street Corridor (approximately Fifth Street to South Van Ness Avenue) and rezone the south side of Mission Street for high-density office.

The Mid Market area is already zoned for office and is very well served by transit. As a result, there are some sites in Mid Market (on Market and Mission Streets) that are not historic resources that need to be preserved where higher heights and adjustments in FAR should be accommodated. In the case of Mission Street, in order to accommodate more office, some lots on the south side of the street would need to be rezoned for office use (C-3-G), the FAR limit adjusted, and the heights raised.

Recommendation 3.3: Allow high-density office buildings on appropriate sites within a portion of the South of Market Area referred to in this paper as the Fourth Street corridor.

One of the most significant new areas for office growth is the Fourth Street corridor. This area will have a new subway line extending from Chinatown south to Fourth and King streets (where there is a Caltrain stop) and can accommodate new offices in such a way as to continue to attract workers on transit. The

north Fourth Street corridor is adjacent to the Powell Street BART station and has capacity for more commuters, who could fill 4 million square feet of office space.

In the area bounded by Townsend, Third, Harrison, Fourth, Howard, and Fifth streets, as well as on properties facing those boundary streets, there are many parcels of sufficient size or could be assembled into parcels of sufficient size to support high-density office buildings. The entire corridor can be served by the new Central Subway, the Caltrain station at Fourth and King, or by the Powell Street BART station. SPUR recommends that the Planning Department undertake an intensive study over the next few years about appropriate zoning and other policy changes to accommodate office development in this area.

Undoubtedly, the rules allowing office would need to be carefully crafted, almost parcel-by-parcel. This is a very complex area with a wide variety of uses and competing interests. There is a resident population, many of modest means, whose needs must be respected. All of SPUR's recommendations assume maintaining the existing housing in this area. There are a number of historic resources, many of which should be preserved. There are service and light industrial type jobs that support the city's knowledge exports. SPUR does not underestimate the difficulty of reconciling these varying needs and interests. We believe, however, that this area is of citywide and regional economic and environmental importance that should be considered and emphasized as a job center in a new planning effort.

Recommendation 3.4: As we establish future regional transit stations along either the Townsend corridor or Folsom corridor, rezone adjacent areas for office development.

As the expanded office core reaches capacity, we should align rezoning efforts with planned regional transit by allowing high-density office development in portions of South of Market where office development is currently restricted. For example, if regional transit is planned along Folsom street, the areas within a short walk of Folsom that do not permit office uses should be rezoned for office. The same is true for the Townsend corridor. These areas could accommodate significant employment growth directly adjacent to new regional rail.

Concept 4: Continue to promote downtown housing, but reduce the competition between housing and office uses in the office core and on the limited number of sites near regional rail.

Mixing housing and offices in the same downtown areas remains a desirable development pattern. However, there are places where maintaining a viable office core conflicts with adding downtown housing. Given these conflicts and the overall space limits, there needs to be some constraint on the amount of residential use allowed in the limited number of key development sites.

SPUR believes that San Francisco should add significant units of housing in order to meet regional smart growth goals and targets. However, in parts of San Francisco — particularly in the areas immediately adjacent to downtown regional rail stations — we should ensure a sufficient supply of employment uses.

Recommendation 4.1. Make office uses a higher priority than other uses on large sites in the existing and expanded office core.

Since the 1990s, many prime office sites in the downtown office core developed as housing and many existing office buildings in the core converted to residential use. As described earlier in this paper, the capacity for office growth in the future downtown is directly tied to whether or not the areas zoned for office are actually built as office instead of other uses. The current zoning of these lands only allows a maximum of 13.2 million additional square feet of office and could be as little as 4 million if housing is a significant future use on the land that allows high-density office.

SPUR believes that in order to assure that downtown can capture significant new employment growth on

transit, we should consider applying some constraint on the creation of housing in key locations of the office core. This recommendation follows rules that the Planning Department's Transit Center District Plan has proposed. That plan seeks to maintain an overall ratio in new development of 70 percent office to 30 percent non-office (residential, hotel, cultural). It proposes to accomplish this by measures including limiting non-office residential, hotel and cultural uses in new projects on large sites to 25 percent of the gross square footage in the building. That proposed plan would permit non-commercial uses only on smaller sites. Similar rules would be appropriate for the North of Market financial district and other parts of the office core.

Recommendation 4.2: Establish dense residential and mixed-use districts outside an expanded downtown high-density office core, particularly in areas well served by transit.

The City is undertaking a revision of the Housing Element of the General Plan, part of which will address the ABAG allocation of housing units needed to meet smart growth production targets. SPUR believes that this Housing Element must consider carefully the issues in this paper about the location of office growth and accompanying transit needs. We recommend that the City plan for dense residential and mixed-use districts in areas within and adjacent to downtown so long as they do not compete with scarce sites in close proximity to regional rail stations.

Concept 5: Modify citywide restrictions to ensure San Francisco can capture a growing share of regional employment.

Recommendation 5.1: Modify Proposition M annual office growth limits to enable San Francisco to meet regional smart growth and carbon emission reductions targets.

Proposition M currently only 875,000 square feet of office space in large buildings per year, and another 75,000 square feet in other smaller buildings. While this figure closely approximates the historical average projected, it is less than what would be required if San Francisco were to meet ABAG's smart growth projections.

SPUR recommends revising the Prop. M annual allocation process. This would likely require going back to the voters to approve a new measure that would enable the City to achieve regional employment targets.

If this avenue is not successful, SPUR also suggests seeking an amendment that would allow for a credit to the baseline supply when office space is lost to other uses through conversions or teardowns. This means that in any year that there is lost "supply" to the office sector, that square footage is added to the Prop. M allocation for allowable office space. In addition, we would suggest that we add back to the allowable supply all the office space lost due to conversions from office to other uses since the voters approved Prop. M. This approach would not result in an overall increase in the supply of office space beyond what was conceived of in Prop. M.

Recommendation 5.2: Develop an approach to historic preservation that allows greater density on sites that do not contain the most important historic resources while protecting the existing scale of sites that do.

Expansion of the downtown office core into adjacent areas necessarily entails increasing allowable heights and densities. But these areas often contain older buildings, some with significant historic merit. For example, a survey of historic resources in the South of Market has identified a large area that might be eligible to become an historic district or districts because it has a number of potentially historically significant buildings scattered throughout. This area also contains many sites or buildings that have no historic significance. SPUR is supportive of preservation of our more important historic buildings and

areas. But given the space constraints on adding jobs, it is important to provide a balance between preservation of the past and development for the future.

In considering new areas for conservation or historic districts that are logical areas for expansion of the office sector, controls should be developed that will enable a limited number of sites within these districts to be developed at a greater scale, as long as those sites are not considered historic resources. It may be preferable to simply designate the more important buildings worthy of preservation for individual protection, rather than creating a district.

Promote the growth of second-tier employment sub centers within San Francisco contingent on their access to regional transit.

Historically, about 73 percent of the city's office space has been built in the downtown high-density office core. Yet downtown is certainly not the only job center in the city. It is only the most transit-accessible and attractive to the widest range of regional employers and employees.

Outside of downtown, there are several tiers of jobs centers, each one less transit-accessible than the next. The first level below downtown includes the employment centers with direct or nearby access to regional transit. These nodes include the University of California, San Francisco Mission Bay campus near the Caltrain station at Fourth and King streets and San Francisco City College near the Balboa Park BART station.

The next tier below the regional rail nodes are employment centers that rely on local transit service. These include the UCSF Parnassus campus, San Francisco State University, the Presidio and the Geary/Divisadero health care district. All four of these areas could support additional employment growth. However, significant employment growth should be contingent on greater regional transit access.

In the future, the Hunters' Point Naval Shipyard and Pier 70 are both planned to become new job centers. Yet given the transit accessibility and likely access to parking on these sites, they might have more in common with suburban employment centers than with transit-rich downtown San Francisco.

As a result, these non-downtown employment centers present a dilemma for the city. On one hand, the non-downtown employment centers have far lower transit ridership and often free to low cost parking. They are often hard to reach for most bicycling and walking commuters. As a result, the division of commuters among transit modes leans heavily toward the private automobile. A sustainable transportation system cannot rely on such environmentally damaging commutes.

On the other hand, the non-auto commutes to these places are still far superior to most suburban job centers. So on a comparative basis, adding more jobs anywhere in San Francisco is part of a regional smart growth vision. Further, in order for the city to meet its regional smart growth targets, it will have to add hundreds of thousands of jobs, not all of which can go downtown. Finally, there are some industries that seek building types and environments that are better found in these other locations — whether the wooded suburban office park feel of the Presidio or the biotech research park feel of Mission Bay. A competitive San Francisco economy is one that offers a variety of building types to accommodate a range of industries.

As a result, SPUR believes that we must plan for non-downtown employment centers. Yet we believe it is just as important to plan for a sustainable transportation system to these locations as it is to make them shovel-ready for development when investment begins to flow again.

Employment centers become more effective and accessible that the more they are directly linked via transit with other business districts. A long-term goal for the Bay Area is to have more jobs accessible by transit. Establishing better linkages between downtown San Francisco and other job centers — particularly within San Francisco — is one way to accomplish this.

SPUR recommends that we begin planning for an extension of the proposed SOMA subway line north and west past Market Street to serve San Francisco's western neighborhoods. This would serve two functions. It would provide greater access to downtown San Francisco from San Francisco's neighborhoods such as the Sunset and Richmond Districts, from which it can take up to an hour or more to reach downtown San Francisco. Such a line would also provide a fast, reliable line between several secondary job centers that are difficult for regional workers to access, such as the University of California, San Francisco Medical Center in Parnassus Heights, San Francisco State University and the Stonestown Galleria.

SPUR also recommends that this proposed line cross Market at Civic Center Station and head west along Geary Boulevard, with the potential of stops at job centers and hospitals including: the proposed Cathedral Hill Hospital at Van Ness Avenue and Geary Street, Japantown, Kaiser and Mt. Zion at Divisadero Street and Geary Boulevard, UCSF Medical Center, 19th Avenue and Taraval Street, SFSU/Stonestown and Daly City.

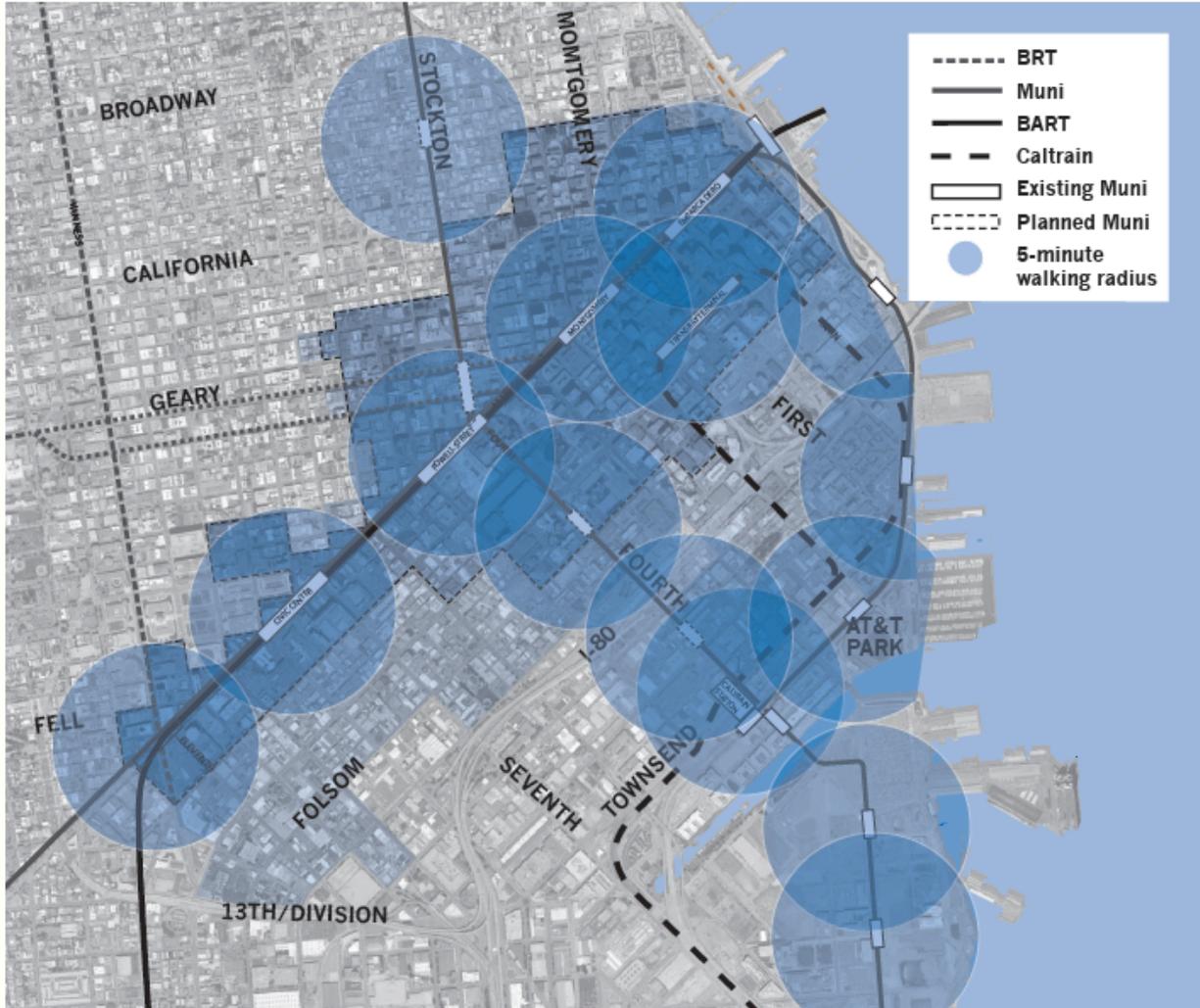
This proposed subway line also would reinforce the existing Muni bus and metro services, and would likely increase the usage of the San Francisco International Airport BART extension by allowing Peninsula residents to take transit to SFSU, UCSF and other job locations.

The alignment also has many sites that can be redeveloped into areas of high-density housing and shopping, including Stonestown and the shopping center and Muni yard at Geary Boulevard and Masonic Avenue.

Transportation policy recommendations: Transit, bicycling and roadways

Expanding employment in downtown San Francisco requires adding capacity to an already stretched transportation system. This involves bringing more people into downtown on current and future transit systems, shifting more commuters to other climate friendly modes such as bicycling and walking, and continuing and expanding our effective management of auto travel into and through downtown. SPUR seeks a transportation infrastructure that accommodates an increasing share of trips on transit and other non-automobile modes. This section identifies specific recommendations to achieve these goals.

Figure 17



A number of areas just beyond the current office district have sufficient transit service to support a dense employment district, or will have it soon. Some of these areas are zoned for office uses but have restrictions on height and other factors that limit their potential for employment growth.

Transportation is a means to an end. That is, transportation is what brings people to and from work and other destinations. But investments in transportation cannot be made in isolation from land use decisions. As a result, we are applying the logic that we add jobs first to the places best served by transit — and make the necessary investments to expand the capacity of the existing transit system to accommodate more riders. Next, we create new transit to bring workers to an expanded office core. As we identify areas further from the current office and transit core, we must continue to apply our successful parking management policies. We will also have to support the use of non-motorized modes at each of these stages.

Using this logic, the transportation recommendations are organized around five concepts:

- Concept 1: Make immediate investments (0-5 years) in the existing transit infrastructure to carry more workers to and from downtown San Francisco.

- Concept 2: Make investments in the current transit system over the medium-term (5-15 years) to increase capacity of the existing lines and stations.
- Concept 3: Build new transit lines to bring more workers to an expanded downtown.
- Concept 4: Increase the use of bicycling and walking into and within downtown.
- Concept 5: Use market based tools to manage roadways and parking to expand capacity and accommodate more trips.

SPUR recognizes that we will need to do all of the above in order to have a fully functioning transportation system into and through downtown San Francisco — particularly one that achieves our goal of getting as many people as possible to and from work and other trips without a car.

SPUR also recognizes the long-lead times associated with capital projects and the necessity to incrementally develop high-cost improvements.

Our economy is dependent on good, reliable and dependable transportation. In the case of an emergency, such as a major earthquake, all existing and future transportation links are critical for maintaining economic viability. Recommendations included here will provide the flexibility to allow the system to respond to an emergency in a timely way and to ensure necessary system contingencies.

Concept 1: Make immediate investments in the existing transit infrastructure to carry more workers to and from downtown San Francisco.

The first concept is to make investments to increase capacity in the current system. Each of the recommendations below are necessary to ensure transit growth over the next few years and while we are planning for the medium-term investments, which often require more planning.

While SPUR recommends new transit lines to provide more capacity, it is crucial that we make short- and medium-term investments to accommodate more riders along the current Market Street subway, particularly because most of the current downtown core is within a few blocks of this corridor.

This concept is parallel to the first land use concept of making changes in zoning to accommodate more growth in the downtown office core. The following recommendations are based on changes that accommodate growth within our existing system over the next five years.

Recommendation 1.1: Invest in new systems to add more trains to BART lines and more riders on the trains.

BART is the main transit system bringing workers from the East Bay (who are 38 percent of the city's downtown workers) and increasingly important in bringing workers from within San Francisco and the Peninsula. BART needs to approach a capacity of about 33,000 passengers per hour by 2030 (in one direction).

In the short-run, the lower-cost projects to get there are:

- *Reconfigure existing cars for more capacity, using methods such as removing vehicle seats near doors to accommodate more standing passengers.*
- *Install a new train control system.*
- *Specify three-door cars in the next vehicle replacement purchases.*

- *Redesign routes and schedules to maximize passenger ridership.*

BART's role in the region is both an urban metro and suburban railroad. While the balance between the two becomes more difficult as patronage increases, BART recognizes that it needs to maximize its capacity in the urban core where it can fill every seat. Along with system management, BART should redesign the system to look and feel more like a metro — more doors per train car, shorter time spent at the stations, and fewer seats and more standing room. Near-term capital items include new train control systems to allow up to 30 trains per hour, along with more rail cars.

These recommendations are the first step in a series of incremental projects that support BART's systemwide reliability and capacity program prior to building any new subway lines or a Bay crossing.

Recommendation 1.2: Expand transbay bus service.

Even with a BART line capacity of about 33,000 per hour, BART will be extremely crowded at Embarcadero and Montgomery stations. A comprehensive and coordinated approach would use transbay buses to both relieve crowding at the Embarcadero and Montgomery stations and to free up line capacity for jobs located near the Civic Center and Powell stations as well as other job locations along the BART line. The following projects are necessary to deliver this promise:

- *Complete Phase 1 of the Transbay Transit Center.*
- *Increase the Transbay bus fleet.*
- *Encourage and support a system of Transbay BRT lines in the East Bay.*

Recommendation 1.3: Implement Muni's Transit Effectiveness Project recommendations for faster service.

Muni carries a significant share of downtown workers, and its efficient operation is vital. In the recent past, many of Muni's problems were easily solvable, but outside its direct control — traffic control, street allocations and so on. With the merger of Muni and the Department of Parking and traffic into the San Francisco Municipal Transportation Agency reducing or eliminating these jurisdictional barriers, we need to move aggressively to make our streets more Muni-friendly. Muni then needs to exploit these efficiencies and improve the operations of systems it has always controlled — for example, the subway system and its exclusive rights-of-way.

For the SFMTA (the agency that manages Muni, adding capacity on the existing system is not about establishing new bus lines or adding more buses. Instead, Muni will add capacity through increasing train and bus speeds, shortening boarding times, and improving the customer experience on the busiest lines. Speeding service to a systemwide average of 10 mph, up from 8.1 mph today, would add about 25 percent more service without requiring a single new driver or vehicle.

Much of the effort to add this capacity is part of the Transit Effectiveness Project. SPUR believes that Muni should fully implement the TEP's recommendations for faster service, especially on major routes to downtown San Francisco.

Based on SPUR's analysis, the following are the most important recommendations to improve Muni light rail and bus operations as applied to service accessing downtown:

- **Begin a thorough study of transit and bicycling improvements on the Market Street and Mission Street corridors.** The recommendations from the Transportation Authority's Market Street study, approved in 2004, should be implemented immediately. The Municipal Transportation Agency should build upon those first steps with a thorough analysis of potential

methods to speed up the buses and trains by 10 percent to 20 percent, and to provide a safe and protected bicycle path the length of Market Street.

- **Implement TEP recommendations for faster service.** These include physical changes to the streets, such as “transit preferential street” treatments. TPS treatments are enhancements and alterations made to streets that speed the flow of transit in places where transit shares a right-of-way with vehicle traffic. These measures, which include more physically separated transit lanes and transit preferential traffic lights and signaling, could be implemented on a number of lines at a relatively low cost. The TEP also includes stop consolidation, increased service on key lines and the creation of express buses or limiteds as part of a rapid network. To achieve faster boarding, the TEP calls for a system of pre-paying, all-door boarding and Proof-of Payment. This could be encouraged by installing ticket vending machines at all stations and busy bus stops, and phasing out fare collection by bus and train operators for rapid routes — because fare collection both delays train and bus movement, and distracts the operator. All of these TEP recommendations should be fast-tracked and implemented.

Recommendation 1.4: Electrify Caltrain and upgrade its tracks.

While San Francisco and the East Bay account for most of the downtown “commute shed” — the geographical area from which commute trips to downtown San Francisco start — expanding good transit service to the Peninsula and South Bay is a strategic imperative. The extension of Caltrain into downtown and its evolution into a modern urban transit system would open up housing in two counties, connect San Francisco residents with jobs in the South Bay, and would link the region’s two most important commercial areas — downtown San Francisco, as the administrative and financial center of the region, and the South Bay as the industrial and research center. First phase improvements should include:

- Upgrade and add tracks to Caltrain right-of-way.
- Electrify Caltrain from San Jose to San Francisco.

Caltrain is an important existing piece of infrastructure that must be maximized. In Europe, suburban commuter rail systems like Caltrain became the S-Bahns and the RERs that today deliver huge numbers of people into vital center cities. Using this same European strategy would result in an electrified Caltrain with more and faster trains, less noise and pollution, more express service and more passenger capacity.

Recommendation 1.5: Provide better storage and expand service by Golden Gate Transit buses and ferries.

While Marin and Sonoma Counties have a low share of the downtown San Francisco commute market, the Golden Gate Bridge, Highway and Transportation District does operate a multimodal system that manages bridge flow and transit into the City. This system includes the bridge, buses and ferries.

Suggested improvements include:

- Bus: Provide adequate midday storage facilities in San Francisco.
- Bus: Investigate use of the Van Ness bus rapid transit path by Golden Gate Transit buses.
- Ferry: Provide more ferry service to San Francisco from Larkspur.

The system that can and should be expanded is the Golden Gate Ferry system from Larkspur to San Francisco. This system carries the most passengers of all ferry services in the Bay Area. Peak period service is already reaching boat capacity limits. As a result, Golden Gate Transit purchased two high-speed ferries in November 2008, the first of which will enter service by early 2010.⁵¹ The strategy for the Larkspur Ferry and any other service running at capacity should be to maximize capacity through

⁵¹ *Golden Gate Bridge, Highway and Transportation District*, goldengate.org/news/ferry/high-speedferries.php.

frequent peak service while being flexible to varying capacity demands throughout the day. Using the new ferries, and more if necessary, Golden Gate Transit should be able to implement more frequent service during peak periods.

Concept 2: Make investments in the current transit system over the medium term to increase capacity of the lines and stations.

The second concept adds capacity on the current system through improvements in reliability and modifications at the current stations. The recommendations below are meant to take place between five and 15 years from now. The distinction between these recommendations and those in Concept 1 is the preparation time required.

Recommendation 2.1: Expand station capacity for BART trains.

As discussed previously, the Montgomery and Embarcadero BART stations need more platform and vertical circulation capacity. SPUR recommends that BART undertake a comprehensive study that examines the costs and benefits of various improvements to add platform and vertical capacity such as:

- Install glass platform screen doors similar to those used on many airport people movers such as the SFO AirTrain.
- Expand platforms by excavating the station wall to accommodate wider platforms.
- Establish direct BART to Muni platform-to-platform connections at Civic Center Station.

These medium-term improvements work to increase BART's reliability and increase capacity at key stations.

While platform screens allow more passengers to use more of the platform area by enabling them to stand immediately next to tracks, Embarcadero and Montgomery stations will need much more capacity than can be provided by new screen doors. As a result, SPUR recommends that BART continue to investigate new side platforms at these two stations, which require mining a new platform on the outside of the station walls. When completed, this will allow BART to separate boarding and exiting passengers in the peak periods and increase overall station capacity. The public right-of-way on Market Street is more than adequate to accomplish this, as BART tracks and platforms currently occupy about half of the area.

Finally, by improving the BART-Muni transfer locations to the least crowded stations, both passengers and the system are better served.

Recommendation 2.2: Build a new three track BART "turnback" at an ideal location between Civic Center and 16th and Mission stations.

In addition to the platform and vertical circulation constraints, BART's *effective* capacity is constrained by the lack of a close-to-downtown turnback track to store malfunctioning trains.⁵² SPUR recommends that BART begin planning for a turnback between Civic Center and 16th Street to store malfunctioning trains, quickly remove delays from service, and allow "short-line" service (where some trains turn back before reaching the end of the line). The current system has only two tracks through downtown San Francisco. If a train is malfunctioning or out of service, it has to go all the way to Daly City before it can be taken out of service. Once BART begins running more trains per hour with peak headways of two

⁵² A turnback is a new train line that comes off of the existing system.

minutes,⁵³ a turnback will be critical for maintaining such a high level of service. Building a turnback west of Civic Center will provide BART with needed operational improvements.

SPUR recommends that the turnback have a station built at its temporary terminus in West SOMA. While the justification for the new station is about operational needs, not passenger demand, the turnback will be the beginning of a new line through SOMA.

All the projects described in 2.1 and 2.2 are necessary investments to handle many more passengers prior to building a new subway line or Transbay Tube.

Recommendation 2.3: Establish a formal coordination of the current AC Transit transbay bus service with BART.

Transbay passenger demand includes some people who can and will move between buses and BART. This is particularly true for people who work south of Market Street. Pricing and crowding both work to allow the most congested stations and links to balance demand with capacity. This passenger flexibility is advantageous and should be used in a coordinated and comprehensive manner. Given the current lack of new peak hour capacity at Embarcadero, buses will have to carry an increasing share of the transbay demand.

To ensure that downtown can continue to capture East Bay commuters and that the new Transbay Transit Center can operate as effectively as possible in managing the capacity constraints in downtown San Francisco, it is vital that AC Transit's Transbay buses and BART service and demand be closely and cooperatively managed. As a result, SPUR recommends a formal coordination of the current AC Transit transbay bus service with BART. This will give BART the appropriate incentive to manage that system effectively to control capacity at the current downtown BART stations.

In addition, SPUR recommends a doubling of the Transbay bus fleet. AC Transit dedicates about 200 buses to the afternoon peak Transbay service. An increased demand will require the addition of about 200 additional high capacity buses. New maintenance facilities will likely be required to accommodate the new buses.

Recommendation 2.4: Develop and implement morning peak period contraflow lane on the Bay Bridge.

The new Transbay Transit Center will allow a more than tripling of bus service from the East Bay to downtown San Francisco, and could result in a capacity increase about equal to a new BART station. To move the buses efficiently, SPUR supports various transbay bus transit priority measures, including a morning contraflow lane on the Bay Bridge in addition to a system of transbay BRT routes in the East Bay, feeding into the Bridge.

Contraflow lanes are an effective tool for adding capacity to a transportation system with large share of one-way commuting. For a number of years they were used along the Highway 101 corridor in Marin County and have been effectively implemented in the New York metro area.⁵⁴

On the Bay Bridge, a contraflow lane would allow buses to bypass the morning queue at the toll plaza, as they do today, and also to avoid any slow traffic on the bridge itself. By taking away an eastbound lower deck lane in the morning, and allowing westbound buses to run in the opposite direction of lower deck car

⁵³ BART currently operates at about three minute headways during peak periods.

⁵⁴ From more than 30 years, New Jersey Transit buses have "jumped the queue" at the Lincoln Tunnel entrance into Manhattan by using a contraflow lane. This lane, only in use in the morning, allows inbound buses to use the normally outbound lanes, resulting in huge time-savings for transit passengers, and allowing NJ Transit to more efficiently cycle buses through the system.

traffic (in a contraflow), buses would avoid traffic on the bridge, which is sure to increase even with the current metering light system. A one-lane contraflow lane would work well with a movable barrier system in place. In New York, more than 700 buses per hour use the contraflow lane. On the Bay Bridge, since the Transbay Transit Center will have less capacity than the contraflow lane, we could “sell off” the excess capacity in a HOT system and use the proceeds to finance the transit system.

Recommendation 2.5: Improve the Market Street Subway to accommodate more riders and trains on Muni Metro.

The medium-term recommendations for Muni to bring more people to downtown in the current system include improvements to the Market Street subway and changes to the train cars themselves.

- **Improve the turnaround time of trains ending at Embarcadero Station.** There is a bottleneck at the station due to operational challenges. Muni should immediately address this problem. When the tunnel was extended to turn south to the Embarcadero, the system was designed so that trains would turn around without a driver, and do so very quickly. This is not the current practice. The current process causes a bottleneck delays service and consequently capacity throughout the Muni Metro system. Muni should rectify this problem.
- **Convert current rail cars to low-floor vehicles.** Low-floor vehicles reduce dwell times — the time a vehicle idles at a station or stop — and make the system 100 percent accessible for the disabled.
- **Explore operating longer trains in the subway.** Currently, Muni operates trains with only one to two cars. Under the current system, Muni can only run a train that is no longer than the shortest platform on the entire line, which is often a very short on-street platform. This limits the maximum train length on the whole line. As Muni is forced to run shorter trains, it creates huge capacity problems and increases operating costs.

Recommendation 2.6: Extend Caltrain from Fourth and Townsend to the new Transbay Transit Center.

This project is environmentally cleared, the terminal is in final design, and the tunnel is in the second phase of preliminary engineering.

SPUR endorses the importance of this extension as key to adding capacity to downtown San Francisco. Not only will it further enable residents of the Peninsula and South Bay to access work in downtown San Francisco without driving, but it will form a more direct link between businesses in downtown San Francisco and firms in Silicon Valley. Additionally, it will help encourage some of the San Francisco residents who currently drive to work in the South Bay to shift to transit.

In addition, SPUR believes that good pedestrian connections between the Transbay Transit Center and BART/Muni on Market Street are required. The Transbay Transit Center will be the biggest transit hub west of Chicago. Just one block away from the existing BART and Muni Metro lines on Market Street, its utility will be vastly enhanced with a direct connection to BART and Muni platforms under Market Street. The connection would enable passengers to travel from the ticketing level of Market Street stations to the ticketing level of the Transbay Transit Center’s train station, without having to go up to the surface and back down again.

Recommendation 2.7: Expand ferry capacity in San Francisco and link Larkspur ferry with new Sonoma/Marin Area Rapid Transit.

With more jobs located in a larger downtown San Francisco, SPUR recommends planning for and building new ferry facilities at both the Ferry Building and Mission Bay. These terminals would

accommodate both Golden Gate and WETA ferries (Bay Area Water Emergency Transportation Authority).

In addition, with the passage of Measure Q in November of 2008, rail service from Marin and Sonoma via Sonoma Marin Area Rapid Transit will increase ferry demand to downtown San Francisco even more than today. This will require the expansion of ferry capacity in San Francisco as well as a strong connection in Larkspur between the proposed SMART service and the Larkspur ferry.

Concept 3: Build new transit lines to bring more workers to an expanded downtown.

The third concept to bring more non-automobile commuters to and from an expanded downtown San Francisco is to add capacity by building new transit lines.

How Should We Decide Where to Build New Regional Rail Lines in San Francisco?

Given that new lines will be expensive and we will have limited capital to invest in such infrastructure projects, decision makers should apply several principles in deciding where to build new regional rail lines in downtown San Francisco:

1. Match the highest capacity lines with the areas with the greatest development potential.

Development potential can include physical aspects such as building size and form, and proximity to existing employment centers, or political aspects such as the willingness of neighborhood residents to accept more development. Ultimately, the new investments should go to places with the greatest number of likely destinations at businesses, places of entertainment, hospitals or schools.

2. Identify the regional routings first, then use local routes to fill in the regional grid. We need to ensure effective connectivity throughout the region and establish a hierarchy of services and transit functions. SPUR suggests that new regional subway lines establish the backbone of service, and that new Muni subways close gaps in the grid and provide overall citywide comprehensive access.

3. Incorporate necessary operational facilities into any new expansion projects. When a transit line such as BART is extended to new locations, adding new riders to the system, the demands on the rest of the system increase. If the trains are already full, adding passengers means riders on the core of the system have a harder time fitting onto trains. If BART buys more rail vehicles, then there is a need for expanded maintenance shops and more mechanics. When we build new transit lines to enable transit-based commuting, we must remember that the exciting new lines require some less-exciting “back-end” infrastructure to work.

4. Build upon prior studies, incorporating new thinking about San Francisco land use issues, improvements in technology and coordination with other projects. The Bay Area is infamous for continually studying the same things, and as a result progress is slow. The highest priority program of projects in the region is the proposed capacity improvements to the Bay Bridge corridor. The most recent Regional Rail Plan and the prior Bay Crossing Study both identified an alignment for a new tube or tunnel between Oakland and San Francisco, entering at about Pier 36. Yet some of our prior studies are no longer appropriate because technology has changed or because those studies did not sufficiently consider

land use issues in San Francisco.⁵⁵ We should build upon the studies that are most appropriate for today, but should not be limited by their perspective.

5. Ensure sustainability is built into both the transit systems and adjoining development. As BART, Muni and transbay bus systems expand, they need to be developed with an eye toward maintaining low operating costs and low environmental footprints.

6. Design the expansions to be delivered incrementally. New Bay crossings are expensive and time consuming. Since we can manage BART's line capacity by increasing transbay bus service, we can deliver new rail service to extensions outside the traditional downtown within BART's station and line capacity, prior to the expensive new Bay crossing.

The following are SPUR's recommendations for additional transit service to downtown.

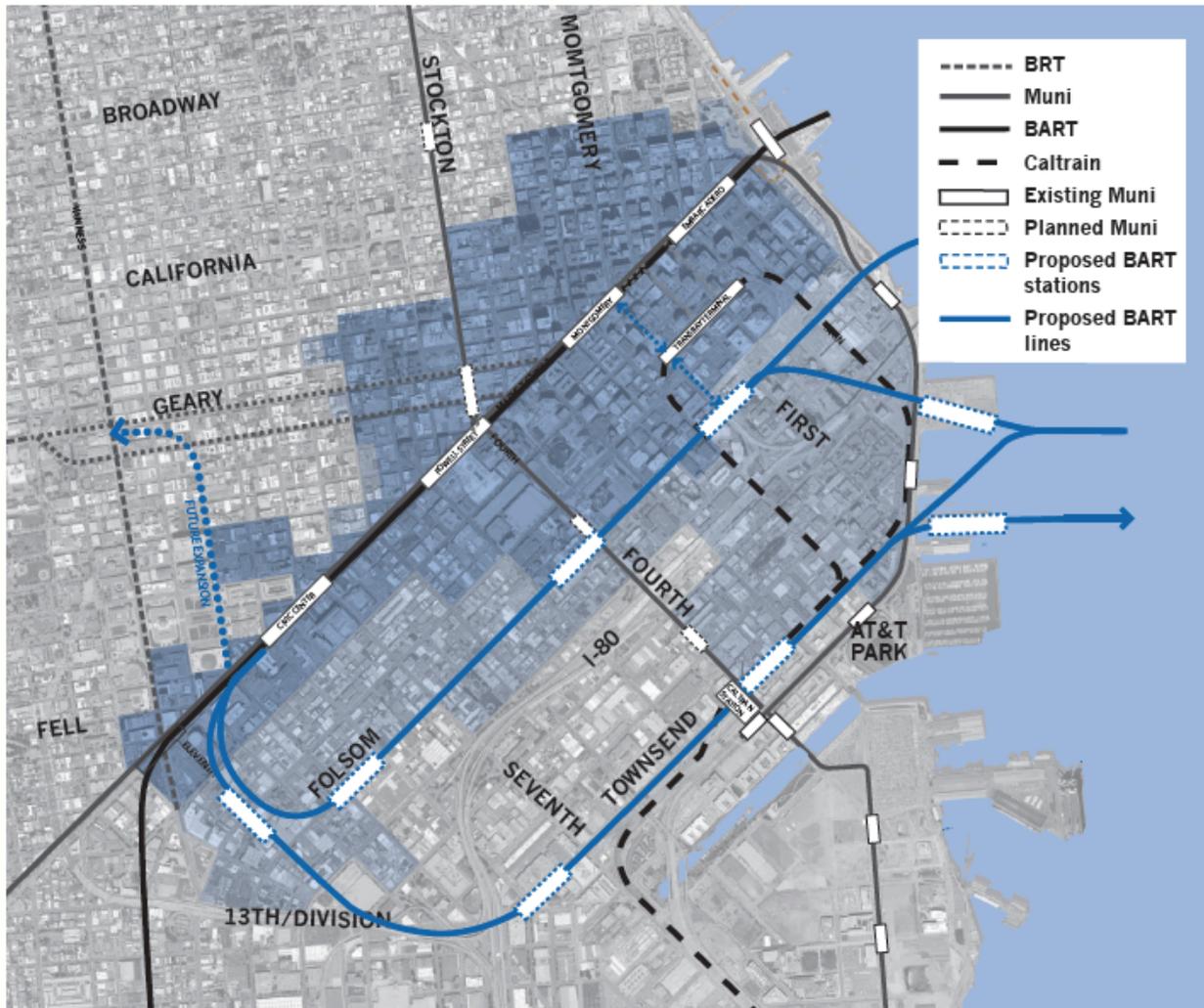
Recommendation 3.1: Plan and build a new subway line through SOMA.

SPUR recommends that we begin planning for a second subway line through the South of Market Area in San Francisco as the highest long-term priority. It is probable that such a new subway line could be designed and built by BART, and could be implemented incrementally and coordinated with the extension of the downtown office district along its route.

This line would eventually link up with a second Transbay Tube to the East Bay. However, it should be designed in a way that doesn't preclude extension west to serve other neighborhoods of San Francisco, much as the current BART alignment serves the Mission District. This new subway line is needed because the existing tube, the Market Street Subway and stations, cannot carry the expected ridership growth into downtown San Francisco. In addition, the existing Market Street office core will be effectively built out, and the most likely new development areas lack direct regional transit access.

⁵⁵ For example, the previous Bay Crossing Study is now out-of-date (from 1991) and was done prior to recent improvements in tunnel boring machine technology. The 2002 Bay Crossings update and Regional Rail Plan did not sufficiently consider San Francisco issues.

Figure 18



We recommend planning and building a new subway line through the South of Market area. It could be implemented incrementally, and would eventually link up with a second Transbay Tube to the East Bay. The new tube should accommodate four tracks in order to include BART and commuter rail. Either a Folsom or Townsend St. alignment would be appropriate, although there are pros and cons of each.

Using the criteria enumerated here, a key objective is to design a system that can be implemented incrementally. We should first build off of our existing system and improve existing transit services first and then build new transit capacity. This will enable the maximization of existing resources and allow sufficient time to plan and incrementally build new transit resources.

We do not need to build the new tube first. Instead, we need to deliver a new downtown San Francisco subway as a first step. SPUR recommends that we build the new line through SOMA, under either Folsom Street or Townsend Street. The new line will extend from a three-track turnback between the Civic Center and 16th Street stations, identified as a midterm reliability project and extend through SOMA toward the Bay.

SPUR believes that either Folsom Street or Townsend Street would be appropriate for the new alignment. Each has strengths and weaknesses, and we believe a more detailed transportation and land use study would best identify the superior option. Therefore, SPUR has not chosen a recommendation between these two options. However, a new regional subway line under at least one of these two corridors.

A Folsom Street alignment would have several advantages:

- It would relieve BART's station crowding by placing new stations within walking distance of the current Market Street facility.
- It would provide redundancy in case one line is temporarily taken out of service by accident or repair. Then passengers can shift to other line with little trouble.
- It could support the contiguous growth of downtown, as the Mid-Market Street area is one of the logical extensions of downtown that is close to the current downtown than West SOMA. It would allow the creation of new office markets near Fourth Street north of the freeway, and the neighborhoods of western SOMA and near the Transbay Terminal. It would provide a connection to the proposed Caltrain downtown extension and High Speed Rail at a Transbay Transit Center Station, and to the T-Third and Central Subway lines at a Moscone Center/4th/Fourth Street Station.

The Townsend alignment would have several benefits:

- It would reinforce an emerging neighborhood that has seen significant new growth in recent years — in both housing and jobs.
- It would allow the creation of new office markets in areas of large parcels along Townsend Street adjacent to the railyards, and provide access within walking distance of Mission Bay biotech developments.
- It would serve areas farther west with fewer residential uses than Folsom Street, thus making them more appropriate for redevelopment to accommodate new employment uses.
- It would serve significant regional cultural and recreational areas such as AT&T Park and Seawall Lot 337.
- It would make a connection to Caltrain and the T-Third/Central Subway lines at the station at Fourth and King streets.
- It would accommodate a wider turnback from Market Street than the one to Folsom Street, and thus would be easier to operate at normal BART speeds. Regardless of whether Folsom Street or Townsend Street is chosen, the facilities should be designed for immediate integration into the Market Street subway and the eventual extension serving the Van Ness and Geary corridors.

As part of the initial phase of this project, a BART terminal should be considered at a rebuilt Pier 36/38 facility, or elsewhere near the Embarcadero, which could later become a construction tie-in for the new tube.⁵⁶

⁵⁶ This facility would entail new bay fill, much as the original BART construction resulted in a new pier behind the Ferry Building, which is now used for ferry docking facilities. The Pier 36/38 facility will need to be larger to accommodate the statutorily required turnout for conventional rail to the Transbay Transit Center. In addition, the Port of San Francisco has identified long-term needs, both for California's Public Trust Doctrine that requires maritime uses — including a new cruise ship terminal — and to provide revenue for other maritime activities. SPUR suggests further exploration of a new Pier 36/38 facility and its benefits for the regional transit system, redevelopment in San Francisco, and the Port of San Francisco's maritime obligations and financing obligations.

Recommendation 3.2 Extend SOMA line across the Bay as second Transbay Tube.

SPUR recommends extending the proposed SOMA subway line to the East Bay as part of a second transbay tube. If the new tube accommodated a BART train, it would allow BART to reorient many of its services based on travel demands. It could also provide access to areas currently unserved by regional rail.

MTC has developed two Bay Crossing Studies in the last 20 years. In addition, it has also produced a Regional Rail Study in 2008. These studies explore a variety of options for new BART and standard-gauge tubes connecting San Francisco and the East Bay. SPUR believes it is a high regional priority to carry these studies forward.

The most appealing option is a new 4-track tube that would include BART and commuter rail. The addition of tracks for a commuter rail system increases the utility of the facility by allowing extension of Caltrain service to the East Bay or Capitol Corridor service to San Francisco and the Peninsula. These tracks would also facilitate the extension of High Speed Rail to the East Bay and elsewhere in California. The San Francisco connection to the tube must, by law, be designed with track connections to the Caltrain/High Speed level of the Transbay Transit Center's rail level. This would allow Bay Area commuters to not only travel to and from San Francisco, but also from San Francisco to Sacramento, San Francisco Airport to Martinez, and Palo Alto to Berkeley. This is a critical project that enhances San Francisco's attractiveness as the center of the region and leaves the City with all the benefits of being on a peninsula and none of the disadvantages.

Recommendation 3.3: Expand Muni service with new light rail and BRT lines into and through downtown San Francisco.

To carry more riders quickly into downtown San Francisco, Muni will need to build a variety of new bus-rapid-transit and light rail lines. SPUR recommends the following BRT and light rail projects:

- **Build the proposed bus-rapid-transit (BRT) lines on Van Ness and Geary.** The current 38 Geary bus line is the busiest bus line west of the Mississippi. A Geary BRT line would improve service and increase capacity while also improving comfort. It would terminate at the Transbay Transit Center at street level. Building the Van Ness BRT will vastly increase transit capacity by allowing buses to operate separate from regular vehicle traffic. Van Ness BRT will help residents accessing downtown from both San Francisco via Muni, and Marin and Sonoma County residents using Golden Gate Transit buses. Over the long-term, these lines should probably be converted to rail. This will enable those routes to accommodate more passengers.
- **Build new BRT lines or light rail on critical transitways.** Muni trains and BRT routes through SOMA should be in place as the area densifies and encourage a high transit mode share to work. As the Muni Market Street Subway becomes congested, Muni could reroute some of its existing lines into SOMA or build new lines. The key corridor should be either Folsom or Townsend (depending on where the new BART line/regional rail subway is). Other corridors for BRT or other transit-preferential treatments include 7th Street between Market and 16th Street, Mission Street, Brannan Street, and the 22 Fillmore route along 16th Street. By creating a network of transit routes that have higher priority than autos on these streets, transit can run quickly, often, and efficiently and provide great service to transit riders.
- **Expand the Central Subway to the Presidio.** The first phase of the Central Subway will extend the existing T line from Fourth and Townsend north into Chinatown. This phase is scheduled for completion in 2016 and would terminate in Chinatown. Because of the construction logistics, there will be tunnel-boring machines burrowing from South of Market northward through Chinatown will come out of the ground in the vicinity of Washington Square Park in North Beach. SPUR recommends that the T line be extended further from North Beach to Van Ness and eventually through the Marina to the Presidio. This extension would enable significant shifting

from current buses to a faster light rail and subway system that would bring workers to the current downtown and an expanded employment district along the Fourth Street corridor.

Concept 4: Increase the use of bicycling and walking into downtown

Recommendation 4.1: Allocate transportation funds to better promote non-auto commuters.

SPUR recommends that we analyze how well the street and highway systems are serving not only autos, but also trucks, buses (public and private), bicycles and pedestrians. Many locations downtown have higher levels of pedestrian traffic than vehicle traffic, especially close to subway stations. By analyzing the real traffic of the street and the movement of all people, the street resources can be better allocated to its needs and its demands.⁵⁷

This means creating more pedestrian friendly streets where few cars travel. Powell Street between Market Street and Union Square could be converted to a street for the exclusive use of pedestrians and cable cars due to its very high pedestrian levels. At the same time, some streets should be kept as major vehicular streets to allow access to freeways. These streets could include Third and Fourth streets, Pine and Bush streets, and Bryant and Harrison streets.

Recommendation 4.2: Provide more capacity for bicycling into downtown.

Begin a thorough study of bicycling improvements in concert with transit improvements on the Market Street and Mission Street corridors. The recommendations from the Transportation Authority's Market Street study, approved in 2004, should be implemented immediately. The Municipal Transportation Agency should provide a safe and protected bicycle path the length of Market Street.

A comprehensive bike network of interconnected bike lanes is critical to promoting more biking to work. SOMA has only three major bike lanes traversing the neighborhood: an east-west pair using Howard and Folsom streets, a north-south pair using Seventh and Eighth Streets, and one on 11th Street. The neighborhood should have better and safer bike access through adding bike lanes on more east-west streets such as Townsend Street, and north-south streets such as Second and Fifth streets. Adding capacity also means adding more bike parking. Future office developments should be required to provide secure bicycle parking inside the development in addition to vehicle parking. SPUR also recommends providing more pedestrian access into and around downtown.

Recommendation 4.3: Provide more pedestrian access into and around downtown.

Pedestrians already have thoroughfares exclusively designed for them: sidewalks. Since the 1920s, sidewalks have been shrinking in width to make more space for bicycles and automobiles. New findings, including some from studies recently conducted at Fisherman's Wharf, are finding that more people use sidewalks at high-density locations than use vehicles, and sometimes even more than use transit. Studies should be conducted to better allocate sidewalk space in proportion to the number of people it carries. Sidewalks are the cheapest way to move people because the transportation cost is zero and maintenance costs are very low.

⁵⁷ A recent study by Danish architect and urban design consultant Jan Gehl conducted at Fisherman's Wharf compared pedestrian and vehicle traffic. Jefferson Street in Fisherman's Wharf was one of the streets studied. The results showed that there were about 15 times as many pedestrians as cars on Jefferson Street, despite the total street width offering the same proportion to cars and pedestrians. The street is 75 feet wide with two lanes of traffic, one separated streetcar line and sidewalks on each side. When including vehicles, transit and pedestrians, the share of street width for each is 40 percent for vehicles, 40 percent for pedestrians and 20 percent for transit.

As downtown expands, maintaining existing and building new alleys should be encouraged, especially in SOMA with its very long blocks. By creating alleys that are vehicle free, or pedestrian and bike preferential, people can better access more of SOMA more quickly. Without alleys, walking can require long monotonous walks with little variety, and the need to walk longer distances. Some good examples of alleys and small streets in SOMA include Yerba Buena Lane, Minna Street at Second Street, and Mint Plaza.

As mentioned earlier, some downtown streets should be made more pedestrian friendly or even converted to pedestrian and bike only streets. Possible streets include Powell Street, Grant Street, many of the alleys in SOMA, and Second Street. A comprehensive analysis would be required to ensure that new street treatments and allocations work for the entire downtown and adjacent neighborhoods.

Concept 5: Use market based tools to manage roadways and parking to expand capacity and accommodate more trips.

San Francisco has limited space on its roadways and land. As a result, it must carefully manage the use of the roadways and space within new development to accommodate more workers and visitors in downtown. This will require use of pricing to manage a limited capacity.⁵⁸

Recommendation 5.1: Implement market based pricing of parking spaces.

SPUR supports efforts to set metered parking to market-rate prices. On-street parking is a valuable resource. Most people would prefer to park in front of their destination or very near it. The demand for such parking vastly exceeds the number of spaces that can be provided on the street. At the same time, cities, including San Francisco, have historically underpriced this resource while overpricing parking in garages, which have less demand. Market rate pricing for on-street parking set to create 85 percent occupancy on a given block has shown in many cities to both increase the availability of parking while reducing traffic caused by people looking for nearly a half hour for a cheap metered space.

SPUR believes that San Francisco should continue its pilot SF Park program that implementing such parking pricing using more convenient parking meters that accept credit cards. Once the pilot project has been completed, market rate pricing should be implemented citywide, especially in downtown. At the same time, pricing for parking garages should be coordinated with on-street pricing.

Recommendation 5.2: Establish time of day pricing on bridges and highways.

The City of San Francisco, Caltrans, San Mateo County and the Golden Gate Bridge Authority should work together to create regional time-of-day pricing that works to reduce congestion on highways and streets, and distribute funds fairly with exceptions for low-income drivers. By coordinating together, possibly through creating a joint powers authority, a coordinated system of bridge tolls and street charges would help reduce San Francisco's traffic, especially in an expanded downtown.

Instead of some of the market based tools being considered (e.g. one of two congestion pricing areas that covers either traffic going into northeast San Francisco or a more limited zone that covers only downtown), SPUR recommends a system that makes better use of our existing system of managing congestion.

⁵⁸ *Some of these concepts were included in SPUR's Parking and Livability in Downtown San Francisco Policy Paper from October 2004. In general, SPUR believes in instituting pricing measures to reduce demand for parking, especially commuter parking and limiting parking capacity to achieve the right balance between parking spaces and street capacity. See: www.spur.org/documents/050101_report_01.shtm.*

One alternative would be simply to charge one toll for anyone entering San Francisco on the two bridges and the two freeways from the Peninsula. This means using existing toll systems on bridges to control access from the East Bay and North Bay, while adding toll facilities at the city border on the two southern highways: U.S. Highway 101 and Interstate Highway 280. SPUR recommends that San Francisco begin discussions with San Mateo County about converting some or all lanes on 280 and 101 to toll/high-occupancy toll (HOT), developing the technology for eventual regional system, much as the Netherlands and Dubai are doing. Further, this time-of-day pricing would work not just at bridges or in one direction, but could work in any direction at any time there is congestion.

Using tolls at freeways entering San Francisco would be much easier to implement than a congestion pricing area. It would also likely be cheaper to implement than a London or Singapore style congestion pricing zone.

Whatever method is chosen, SPUR supports a pricing policy that reduces traffic while still attracting businesses and tourists into the city, whether by vehicle or transit. Coordinating the pricing of bridges, highways, and street parking is critical to the success of the policy.

Recommendation 5.3: Implement parking cash-out programs at subject employers.

The state's "parking cash-out" law, which eliminated hidden subsidies for employee parking, is not being enforced. The Board of Supervisors should pass a local ordinance clarifying the law in San Francisco and insisting on its enforcement. The City of Santa Monica requires proof of conformance with the cash-out law in conjunction with annual business tax payments. The San Francisco Assessor's Office could require proof of compliance as part of annual property tax collections.

How to Shift Regional Transportation Funding to Cities and Stop Subsidizing Sprawl

California's taxation and spending policies need to be changed. For many years, SPUR has argued that it is bad policy to engage in the "fiscalization of land use" — in which cities are encouraged to zone land for retail uses to generate tax revenues, rather than for the creation of job. We can take a first step toward reform with changes that link transportation investment with transit accessible job creation.

For almost 50 years the region has used models based on forecasted trends determine where our public infrastructure dollars were invested. Since the fastest growth was in the suburbs, this perverse, automatic funding machine showed more and more need for more and more freeways in areas further and further from the region's core. This led to more and more driving. It was the ultimate bureaucratic self-fulfilling prophecy.

As the 21st century dawned, we finally started getting a handle on this problem. The Association of Bay Area Governments changed its models from ones based on trends to ones based on policy (a remarkable admission that we could actually control our destiny), and then finally to the current concepts of "performance-based" modeling — in which we adopt a carbon emissions reduction target and identify the land uses and transportation investments to get us there.

Like all changes in public policy, there are winners and losers. And that's when the region acknowledges what it takes to meet our performance goals, which really hasn't happened yet. To achieve our carbon reductions we need to limit the number of freeways in the suburbs and redirect investment into transit in our core cities, including San Francisco, Oakland, Berkeley, San Jose and the Peninsula commuter rail

cities. Transportation is the great equalizer in our quest to increase density and accommodate our future population. It also is the most coveted capital resource.

The region anticipates allocating about \$500 million annually in expansion projects for the 25 year life of the Regional Transportation Plan. How and where we invest this money is directly related to where we put jobs and how much we reduce our carbon footprint. Now is the time to scrap our fixation on “return to source” and instead concentrate on the reduction of carbon. Carbon reduction is best achieved by locating jobs close to transit. We all benefit as we remake the transportation system into one that helps us achieve our goals for reducing the number of vehicle miles traveled in the region.

If we are serious about carbon reduction and the VMT reductions needed to achieve our goals, then we need to specifically reward the creation of jobs that can be accessed by transit. That means core cities get transit funding in greater proportion than the suburbs, and this funding is based on access to jobs.

We can even out the perceived inequity of this funding stream by also using public dollars to “green” the streets — with traffic calming, neighborhood enhancements and other projects that encourage more walking and biking. We can also spend money in the suburbs to purchase a continuous greenbelt around the region — money that would primarily be spent in the suburbs and not the core.

There are many ways to make sure that the entire region achieves carbon reductions and benefits from them, and both the city and the suburbs need projects to get there. We need to look holistically at these issues and use our money to make the region that we want, regardless of where the money is actually spent.

SPUR suggests the following changes:

Reallocate regional transportation funds based on where we want people to work, not where they live.

Allocating a portion of infrastructure and transportation funding based on where people work, not where they live, will provide more dollars for employment centers such as downtown San Francisco.

Reallocate regional funds to reward efficient and effective transit operators.

Another change is to reward both efficiency (how well service is delivered and at what price) and also effectiveness (how many people use or rely on the services provided). This would provide an incentive for transit operators to be more efficient and more useful, and would tend to benefit inner-city systems that carry a lot of people— while also rewarding the most efficient suburban operators.

Allocate enough funds for **Reallocate regional funds to reward efficient and effective operators.**

We need the suburbs to be our partners in creating more walkable and livable communities, and to enable them to fulfill this partnership we need to make sure they have funding to incrementally transform from automobile dominated communities to places friendly to walking and bicycle riding.

Encourage San Francisco to participate more directly in regional deliberations on infrastructure funding at ABAG and the MTC.

Many regional investment decisions are made in committees of the Association of Bay Area Governments and the Metropolitan Transportation Commission. While San Francisco has seats on both bodies, we are not making effective use of those seats to advocate for additional infrastructure funding for the city.

CONCLUSION

Over the past several decades, growth in the Bay Area has distributed an increasing number of jobs far from transit. This pattern cannot continue if we wish to meet regional climate change goals. The necessary alternative is to increase the number of jobs in the region that are directly accessible by transit, preferably regional transit. Given historical patterns of transit ridership, this goal could be best achieved through adding more jobs to existing high transit-ridership places such as downtown San Francisco.

To change regional outcomes such as transit ridership and overall vehicle emissions, we need to change the pattern of suburban job sprawl. This means putting significant new job growth into our existing central cities, and particularly into transit rich downtowns such as San Francisco. Economic growth and job growth in San Francisco's downtown knowledge economy is good for the city's environment, economy and social equity. However, downtown San Francisco is running out of space for continued growth in office development. By some estimates, there is less than 13 million square feet of zoned capacity for office space in the downtown core. Further, the regional transit system bringing workers into downtown has major capacity constraints in key places.

If we accept the notion that adding transit accessible jobs in downtown San Francisco is a core an effective response to climate change, then we must make changes to prepare the downtown area to capture a growing share of regional jobs.

While SPUR does not propose that downtown San Francisco should grow without limits, if we put the concerns of climate change into our discussion we can have an honest debate about why we should or should not dramatically expand downtown.

San Francisco could choose to not allow the city to grow. Or we could give up on downtown as a place for most of the job growth in San Francisco. But that would mean shrinking job opportunities for city residents and would render San Francisco unable to meet its emissions targets. This no-growth direction for San Francisco would lower the economic competitiveness of the region. The Bay Area needs a downtown San Francisco that is growing and healthy.

To accommodate this additional growth, we may need to modify some of the assumptions underlying the planning principles that have governed and shaped the city's growth. We also need a new downtown plan to properly plan for the future. If we allow low-density housing or other uses with a low employment density to take root in the downtown area, we run the risk of severely hobbling San Francisco's options for the future.

As we move forward to meet the future of downtown San Francisco, SPUR recognizes that even if we are able to secure the public, political and economic will to expand the downtown area, the changes that are necessary to maintain the vigor of the city and its downtown cannot be considered successful unless we also maintain the human and pedestrian-oriented features that grace the downtown area today. That is the magic of San Francisco — a magic that easily can be accommodated amid a growing and evolving city.