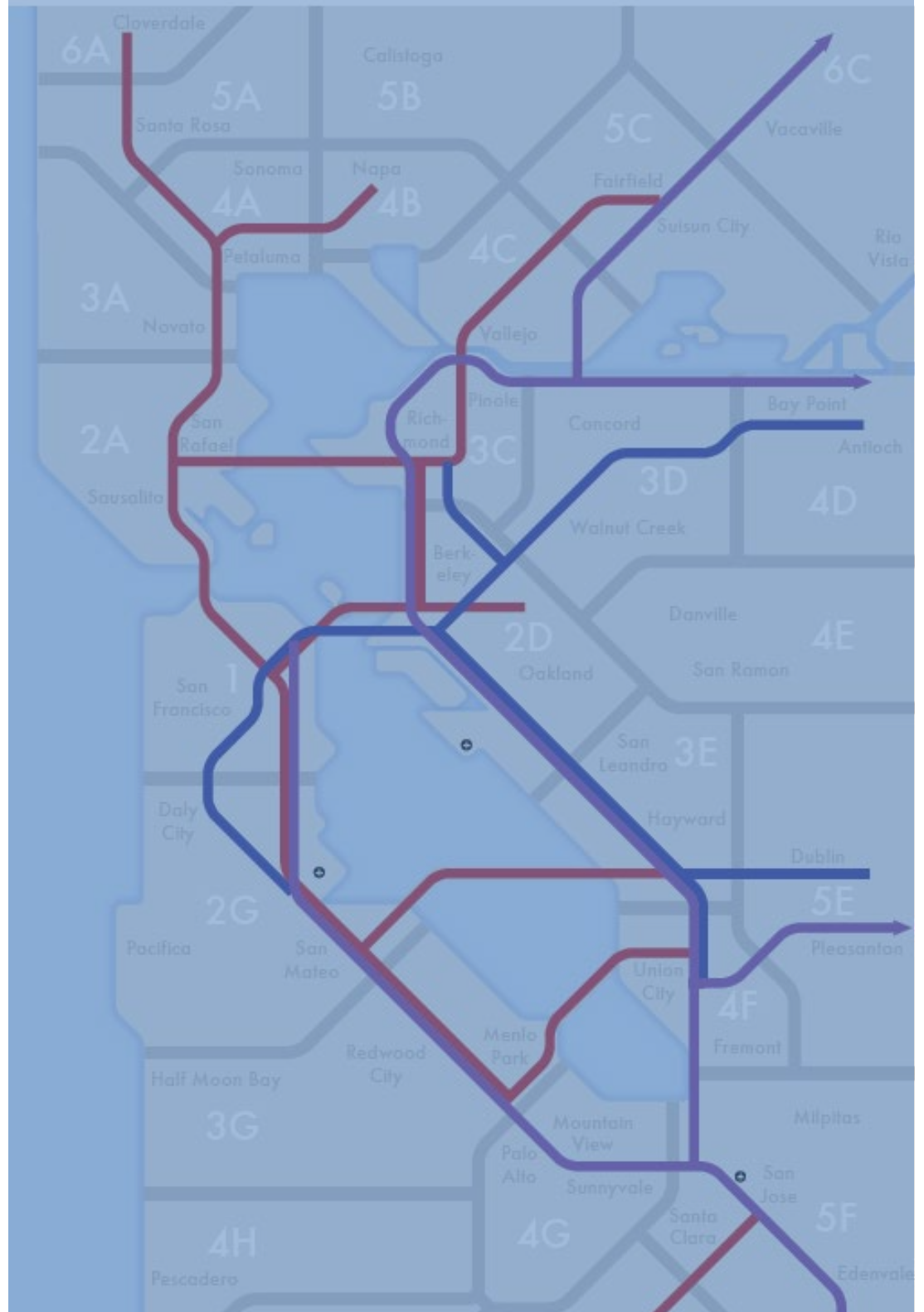


# CONSOLIDATION OF BAY AREA TRANSIT AGENCIES



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## Abstract

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The San Francisco Bay Area transit system is anything but a single system. Twenty-seven transit operators provide service in the area, and the discontinuity between agencies contributes to high cost, poor perceptions of service quality, and redundancy in the transit system. We investigate the role of consolidating certain functions of these agencies in saving transit dollars, improving the passenger experience, and providing a more regional perspective of the transit system. To that end, we conduct a review of literature, focusing on current issues facing transit, historical attempts at consolidation in the Bay Area, comparative examples, and identifying key elements of a consolidated system. We then interview transit officials from the seven major Bay Area transit agencies and MTC in an effort to understand the current environment under which consolidation attempts would have to be made. We conclude that a unified fare structure and clear Bay Area branding may improve perceptions of service quality in the entire system; that regional bus and rail service could be combined into one agency to improve service quality and reduce capital and operating expenses; and that agencies should attempt to consolidate their procurement, operations and maintenance efforts to potentially eliminate redundancy and reduce cost. We further highlight some areas where few barriers to consolidating agency functions exist; these policies could be put into effect quickly and potentially result in improvements to the system. Overall we identify consolidation efforts that merit further study due to their suitability to the region, support from transit professionals, and potential benefits to transit customers and residents.

## Introduction

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The San Francisco Bay Area's public transit system is governed by a large number of independent public agencies. Each of these organizations has a distinct culture and its own priorities; disparities in decision making between these entities lead to inefficiencies that would not be experienced by a consolidated transit system administration. Such inefficiencies could include mismatched capital investments between agencies that result in waste or rider confusion, different fare structures and payment systems that are inconvenient for users and redundant between agencies, or uncoordinated schedules that increase the user cost of transfer between systems. These inefficiencies cost these agencies time and money, and also depress ridership. Some large metropolitan areas in other parts of the world operate public transit systems under a single agency or create a hierarchy that coordinates separate systems. In the Bay Area, where auto congestion is severe, transit consolidation might make public transportation easier and more attractive to use, thereby reducing auto trips without requiring large capital expenditures for infrastructure investment or service improvements. However, consolidation is not without its own costs. Assessing the net benefit of consolidation, as compared to the status quo, requires further investigation and will be explored herein.

First, we review existing literature related to consolidation of transit agencies within the Bay Area, including the current Transit Sustainability Project effort, as well as past efforts at consolidation, comparative studies, and definitions of consolidation itself. Second, we discuss our methodology for conducting primary research via interviews of area transit agency officials, as informed by our literature review. We then present our primary research findings; and finally, we assess the benefits of Bay Area transit agency consolidation and recommend administrative and policy changes to achieve those benefits.

## Findings from Review of Literature

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We review a variety of literature pertaining to consolidation, starting with the San Francisco Bay Area Metropolitan Transportation Commission (MTC)'s recommendations based on the findings of the Transportation Sustainability Project (TSP). These findings provide a framework for understanding the range of consolidation activities being considered and the effect they may have. To better understand the history of transit in the Bay Area, we review an article by Brunetti (1990) which details the history of attempts to form a Bay Area consolidated government, and an article by Higgins (1981), which details the effort to coordinate Bay Area Rapid Transit (BART) and AC Transit services shortly after BART was created. We then turn to comparative examples of consolidation presented by Rivasplata and Florez Diaz (1998) to identify criteria under which integration may improve service, reduce costs, and increase ridership. Finally, we use the survey findings by Miller et al. (2006) to define consolidation via the different categories of actions that can be taken to unite various aspects of public transportation management. Our findings from this literature review will be used to develop the set of scenarios presented in interviews of transit officials.

## TRANSIT SUSTAINABILITY PROJECT RECOMMENDATIONS

On April 12, 2012, MTC published a series of recommendations that resulted from the TSP. MTC sought “to analyze the major challenges facing transit and identify a path toward an affordable, efficient and well-funded transit system that more people will use” (1). The project focused on three goals: improving the financial condition of Bay Area transit agencies, improving customer service, and attracting new ridership. These goals were addressed with reference to three major types of improvement: financial, service-oriented, and institutional. While the goal of the TSP was not necessarily to achieve consolidation, many of its recommendations could be accomplished by merging the existing transit agencies.

	Total		
	Transfers To/From	Total Ridership	Transfer Rate
AC Transit	12,717	190,647	6.7%
BART	77,837	338,842	23.0%
Caltrain	12,765	36,695	34.8%
Golden Gate Ferry	468	6,618	7.1%
Golden Gate Transit	878	20,531	4.3%
SamTrans	3,100	45,909	6.8%
San Francisco Muni	73,821	706,208	10.5%
Santa Clara VTA	2,254	130,670	1.7%
<b>Total</b>	<b>183,840</b>	<b>1,476,121</b>	<b>12.5%</b>

Source: May 2011 Clipper inter-operator travel Matrix; CH2M Hill estimates

Operator Pair	Monthly Transfers	Single Trip Transfer Agreement	Pass Transfer Agreement
BART / SFMTA	1,556,200	\$0.25 discount on SFMTA, each way	"A" Fast Pass (\$10 more/month to ride BART within SF; and BART Plus (savings ~\$6-\$10/month)
AC Transit / BART	269,300	\$0.25 discount on AC Transit, each way	None
Caltrain/ SFMTA	218,500	None	\$5 discount on SFMTA pass
BART / Caltrain	72,300	None	None
AC Transit / SFMTA	40,900	None	None
BART / SamTrans	30,100	None	BART Plus (savings ~\$8-\$12/month)
SamTrans / VTA	27,900	Free transfer on 2 <sup>nd</sup> leg, each way	Monthly pass reciprocity

Source: Information compiled from transit operators

**Figure 1: Interoperator Transfer Rates and Fare Policies (1)**

MTC’s findings reveal situations that would improve if transit service were to be consolidated. From a service perspective, the report found that “integrated land-use/transportation planning will attract new transit riders” and that “a consistent fare structure across multiple transit systems can boost transit ridership and improve the customer experience” (1). As shown in Figure 1, the fare transfer policies between agencies are non-uniform and difficult to understand, which depresses the inter-agency transfer rate. From an institutional point of view, the report found that “integrated transportation policy decision making, across jurisdictions and across modes (transit, arterial management, parking, etc), can lead to more effective investment and service decisions” (1). The MTC further noted that “Bay Area transit administrative costs are higher than national peers, owing in part to the existence of multiple operators serving a metropolitan region of this size,” (1) as shown in Figure 2. These findings suggest that consolidation would result in increased ridership, greater cost-effectiveness, and an improved passenger experience.

Region	Number of Agencies	Total Regional Transit Budget	Total Regional Administrative Costs	Regional Vehicle Revenue Hours	Regional Admin. Cost per Vehicle Revenue Hour	Regional Transit Ridership	Regional Admin. Cost per Rider
Bay Area	27	\$2.2 billion	\$461 million	12.1 million	\$ 37.84	484 million	\$ 0.95
New York City	37	\$11.5 billion	\$1,998 million	58.3 million	\$ 34.27	4,077 million	\$ 0.49
Philadelphia	5	\$1.2 billion	\$208 million	7.1 million	\$ 29.14	358 million	\$ 0.58
Seattle	9	\$1.1 billion	\$195 million	6.8 million	\$ 28.93	189 million	\$ 1.03
Los Angeles	20	\$2.2 billion	\$408 million	16.7 million	\$ 24.48	640 million	\$ 0.64
Chicago	15	\$2.1 billion	\$363 million	14.9 million	\$ 24.25	628 million	\$ 0.58
Washington DC	12	\$1.7 billion	\$254 million	11.0 million	\$ 23.18	476 million	\$ 0.53
Boston	7	\$1.2 billion	\$155 million	7.1 million	\$ 21.96	363 million	\$ 0.43
Peer Average	15	\$3.1 billion	\$512 million	17.4 million	\$ 29.39	962 million	\$ 0.53

Source: Compiled by PB Americas from NTD and operator data

**Figure 2: National Comparison of Administrative Costs (I)**

As a result of these findings, MTC recommended several actions. The first was the adoption of new performance metrics for transit agencies linked to MTC-controlled funding. The report's authors noted that "with respect to its coordination authority, the Commission has rarely withheld funds" (I), suggesting that MTC should leverage its funding discretion to motivate transit agencies to make serious efforts to achieve regionally-set goals. According to the MTC paper, "the largest seven transit operators agree with the incentive program, but recommend...that only new funding sources be used for the incentive" (I). Transit agencies depend on MTC-allocated funds for operations, and making these funds performance-based would create 'winners' and 'losers': agencies that did not meet the performance standards would see their operating funds reallocated to a different agency, making them even less capable of reaching their operating goals in future years. If only new funding were subject to these incentive measures, the transit agencies argue, then operating funds would not be threatened and the incentive program would dictate only which agencies would have funding to invest in new capital projects or special programs. Yet, whether incentives applied for all funding or only for new funding, linking cash to performance standards would mark a change in the relationship between MTC and local agencies, and would give MTC greater ability to coordinate regional transit service.

Additional policy recommendations were made in the TSP report, but were described in less detail. Recommended changes to transit service included integrating "bus/rail scheduling software to facilitate schedule coordination and customer travel planning," integrating some planning efforts between local agencies with adjacent service areas, and adopting "fare policies focused on the customer that improve regional/local connections" (I). These proposed changes represent steps towards an integrated transit system, reducing points of friction for passengers using transit services provided by multiple agencies, and coordinating planning and infrastructure investments between these agencies. The MTC report's institutional recommendations represent elements of a consolidated system, as identified by Miller et al. (2006). Such recommendations include integrating "multiple transportation functions (transit operating, planning, sales tax, etc) to make more integrated transportation policy decisions," expanding "regional capital project planning/design to include sharing existing expertise and facilities," and formalizing "joint

procurement of services and equipment through the region's transit capital priorities process" (1). The TSP report finally recommends that MTC "apply lessons learned from existing consolidations to pursue benefits of function and institutional consolidation among smaller operations, including coordinated service planning and fare policy setting" (1). The article by Miller et al., discussed later in this section, will come to similar conclusions drawn from a national survey of transit professionals.

## **HISTORICAL ATTEMPTS AT CONSOLIDATION IN THE BAY AREA**

The recommendations identified in the MTC report are hardly new. However, they have yet to be adopted, despite their potential benefits. Historical studies have detailed past consolidation attempts in the Bay Area and provide evidence and analysis as to why they failed.

### **Coordination of Bus and Rail**

T. Higgins's 1981 paper, "Coordinating buses and rapid rail in the San Francisco Bay Area: The case of Bay Area Rapid Transit," examined whether coordinated planning of BART with local bus service could result in cost savings. In his article, Higgins acknowledges that BART ridership would improve if there were better interagency transfer coordination between AC Transit, BART, and the San Francisco Municipal Railway (Muni). Higgins further argues that "political hurdles to coordination might have been eased if AC and BART were under one roof" (2), providing an argument for agency consolidation.

Higgins studied the historical reduction of AC Transit service parallel to BART in favor of new AC Transit feeder service to BART. He noted that as BART became operational, ridership dropped on some AC Transit lines, especially Transbay lines, and that AC Transit then curtailed those lines in response to the decrease in demand. However, complete elimination of the redundant lines proved impossible; as Higgins describes, after a point,

...further cutbacks in the interest of creating more rail patrons proved politically infeasible. In the case of trans-Bay trips parallel lines meant parallel but superior rail service to some bus patrons, and given the choice, many selected BART. Yet in other travel corridors, bus patrons saw BART as providing inferior services. It is no wonder a bus company resists reductions in what planners call "redundant" services when bus riders continue to patronize such services (2).

Today, this system operates the same way Higgins observed it, thirty years after his analysis. AC Transit continues to operate lines parallel to BART services as long as they see sufficient demand for such service. As we will see later in this paper, BART planners are now studying increases in Transbay bus service (once considered redundant) as a way to help serve transit demand, due to BART's Transbay service nearing capacity during peak periods. Higgins suggests that "there are some advantages to a single agency providing both rail and bus service" (2); specifically, the potential for bus feeder lines to increase rail ridership. BART planners may agree with Higgins' conclusion for different reasons than he intended – a BART agency running regional rail and bus service could better coordinate service on parallel bus and rail lines, allowing BART to respond to increased demand more quickly and to reduce the need for more expensive capital investments to increase capacity.

### Bay Area Regional Government

In another article, “It’s Time to Create a Bay Area Regional Government” (Brunetti 1990), K. A. Brunetti argues that a regional government is needed in the Bay Area, above and beyond transit integration. The article identifies past attempts to create consolidated regional government in the Bay Area and looks at the political reasons why these policy initiatives failed. Brunetti notes that the creation of regional government agencies is “not an issue that should be voted on by the general public. History in the Bay Area, as well as in other states, demonstrates that if such an issue were put to a vote, it would have virtually no chance of passing” (3). In 1921, Alameda County voters rejected a proposal to consolidate all of the cities in the East Bay as boroughs of one larger East Bay city, while San Mateo County residents rebuffed attempts by San Francisco to absorb their county into the city in the late 1920s (3). These early twentieth century attempts marked the last serious effort to consolidate government at the county or municipal level.

The first successful attempt to create a regional agency was the formation of BART, but BART’s creation was painstakingly slow and followed much political infighting. State legislative action, not local initiatives, was eventually required to establish the agency. The California Legislature passed the San Francisco Bay Area Metropolitan Rapid Transit District Act in 1949, which provided a legal framework for developing the BART system (3). In 1956, the BART Commission, created by the Act to begin planning transit service, released its engineering report, prompting the California Legislature to pass another law, this time creating BART as a special district encompassing five of the nine Bay Area counties (Sonoma, Napa, Solano, and Santa Clara counties were permitted to join in the future) (3). However, the law allowed counties to withdraw, and San Mateo County soon did so over concerns that the increased taxes funding BART would make the county less attractive to business than Santa Clara. Although Santa Clara County had already declined to join the nascent district, San Mateo County leaders were concerned that BART would carry passengers between San Francisco and Santa Clara counties via a proposed terminus in Palo Alto, without benefiting San Mateo residents. Marin County likewise withdrew in 1962, after a dispute between BART and Golden Gate Bridge Highway and Transportation District (GGBHTD) over whether a proposed second deck of the Golden Gate Bridge would carry BART trains or additional auto traffic. According to Brunetti, “the independent nature of the GGBHTD still presents difficulties,” despite demand for BART service in Marin County and the engineering feasibility of operating trains on the Golden Gate Bridge (3). Although BART is an example of the successful initiation of regional transit service in the Bay Area, it remains a shadow of what was originally envisioned, because the disparate agendas of Bay Area governments led to a spirit of competition rather than cooperation between counties.

From his study on past attempts at consolidation and observations of inter-county affairs in the Bay Area, Brunetti concludes, “a single agency with the authority to plan an efficient transportation system could deal more effectively with [the] political fighting that now occurs between transit agencies and local governments” (3). The political history of the Bay Area is replete with examples of turf wars and battles between various local governments over resources and authority. Brunetti’s conclusion implies that only a regional agency with authority to override local decisions in favor of regional interests will be able to craft a truly regional transportation system.



## COMPARATIVE STUDIES

We can identify various problems with transit that could be improved by consolidation using the findings of the 2012 MTC report. From our historical study of attempts to create regional Bay Area institutions, we can understand the political challenges involved with consolidation attempts. Reviewing comparative examples will help us to understand the potential effects that consolidated transit service might have on a region, and will also give us an idea of the structure such consolidation might take.

### Coordination of Transit Service in the United States

Rivasplata et al. (2012) conducted a comparative study of transit service coordination, surveying 202 transit agencies in forty-five US states. One problem identified with coordination was funding, namely that “dedicated resources for coordination are practically non-existent in many regions—often, MPOs lack either the political power or will to generate funding for ongoing interagency coordination” (4). In a finding similar to the observations Brunetti made about the Bay Area political sphere, Rivasplata et al. find that in most US regions with more than four transit agencies, “there are cases in which inherent conflicts exist between the benefits of regional coordination and the costs to individual transit agencies. For example, while transit users may benefit from regional coordination, for taxpayers in some jurisdictions of the region, the costs may outweigh the benefits” (4).

The study by Rivasplata et al. does offer some ideas on how to achieve greater coordination between agencies. “Regional transportation plans [should] propose policies and financial support for ongoing coordination” and “incorporate or balance the needs and desires of all parties—including passengers, operators, communities, and society at large—through a comprehensive planning and outreach process” (4). Similarly to the arguments cited above, Rivasplata et al. support “the granting of greater power to metropolitan planning organizations (MPOs) to promote regional transit policies and generate funding opportunities for the implementation of interagency initiatives” (4). In the Bay Area, this would amount to improving the ability of MTC to promote or block projects based on regional objectives and to withhold funding from transit operators that fail to meet regionally set goals for service, ridership, or cost per rider.

### Comparative Study of London, San Francisco and Caracas

Rivasplata and Florez (1999) compared the transit systems of London, San Francisco and Caracas and found that transit integration primarily benefits transit passengers, while “few studies have attempted to prove that integration attracts automobile users to transit” (5). This finding explains why suburban counties are much less likely to support transit integration than urbanized counties whose residents are more dependent on transit. However, the authors also note that “under optimal conditions, the more integrated a system, the greater the potential for significant cost and time savings to the user” (5). Since a transit user-benefit argument may not persuade counties whose residents are primarily auto users, it may be helpful to make the argument that consolidation reduces waste and excess cost in providing transit services. Rivasplata and Florez argue that “it is economically and environmentally more efficient to consider the transit network as a single system rather than a mere collection of competing services or geographically isolated entities” (5).

### Discussion of Comparative Studies

The above-examined comparative studies cite increased ridership, improved service quality, and reduced cost as benefits of transit integration. They characterize the barriers to consolidation as primarily



political, with different jurisdictions concerned about losing their share of funding or fearful that monies will be reallocated away from preferred modes of transportation. Solutions include using state power to create or strengthen a regional transit agency through coercive or budgetary authority, requiring local involvement in the regional agency's decisions, and giving the regional agency authority to override local decisions when necessary. The question of governance was not addressed in the reviewed literature, and the method by which board membership is determined will play a major role in the politics surrounding the potential creation of a Bay Area regional agency. Ultimately, an examination of literature comparing various transit systems worldwide reveals that consolidation results in net benefits for the region served, if implemented properly.

## ELEMENTS OF TRANSIT INTEGRATION

In order to better understand the form that consolidation could take in the Bay Area, we review "Transit Service Integration Practices: A Survey of U.S. Experiences," by Miller, et al. In this 2006 paper, the authors use results from a survey of 96 transit agencies to identify existing integration practices that have been successful and ways in which barriers to integration have been overcome. The authors identify five types of integration practices that have a direct impact on passengers: infrastructure integration, schedule integration, fare payment integration, information integration, and special event integration (6). Any one or several of these practices might be put into place as part of a consolidation effort. Similarly, within these categories, different degrees of integration can be implemented, creating a wide variety of scenarios under which transit service would be more or less effectively coordinated. The study's authors also identify some practices that can have an indirect impact on passengers and that more closely relate to cost savings. These include: data sharing between agencies, joint procurement of equipment, joint funding proposals, coordinated activities to disseminate public information, coordinated improvement at intermodal transfer facilities, as well as planning and research efforts (6). By combining the operations of one or more agencies in these practice areas, one can reduce waste caused by duplicative or conflicting efforts.

### Summary of Integration Practices

Miller et al. summarize the five types of integration practices having a direct impact on passengers as follows (emphasis added):

1. **Infrastructure integration** involves physical changes to the route structures of at least two transit properties to be more in alignment with their customers' travel pattern needs, establishment of transfer centers, or both, to facilitate the movement of people between different transit modes or between different routes of the same mode.
2. **Schedule integration** involves the coordination and synchronization of arrival and departure times to facilitate customer movements between trip origins and destinations involving single or multiple transit service providers or transit modes, or both.
3. **Fare payment integration** consists of the establishment of a single medium (e.g., a universal transit fare card—conventional paper card or computer chip-embedded smart card—or transfer or pass) enabling transit customers to pay only once for transit services from multiple providers.
4. **Information integration** includes a single way of delivering multiagency information to existing and potential transit customers. Types of information include transit trip itinerary planning and real time information about transportation conditions including transit delays, incidents, and arrival times.

**5. Special event or emergency condition integration** consists of coordinated multi-organizational policies with an action plan to implement during or in response to particular events to minimize the negative impact that such events have on the regional transportation system. Such events may include those planned for, or at least expected, as well as unexpected events. (6)

#### Characterization of Infrastructure Integration

When Miller et al. conducted their transit agency survey, they found that infrastructure integration had been implemented most widely. “The primary objectives of many of the projects have been to improve customer convenience and to provide seamless service and connections. Other objectives included increasing ridership, reducing costs, and achieving operating or administrative efficiencies” (6). Some barriers to infrastructure integration projects included “funding constraints and institutional barriers, such as union and jurisdictional issues, and differing policies” (6). From this, it appears that infrastructure integration may be the most popular form of coordination among practitioners, perhaps because they desire to work on physical projects that are visible manifestations of agency efforts, or because combining efforts of one or more agencies ensures a project will be adequately funded to completion. However, these efforts are costly and usually require a long lead time before breaking ground; moreover, the benefits of these projects will not be seen by passengers until a considerable time after the project’s initiation.

#### Characterization of Schedule Integration

Schedule integration practices in the Miller et al. survey varied in the extent of both application and effect. Positive aspects of schedule integration included increases in transfer activity, greater user satisfaction, decreases in transfer times, increases in ridership with some alleviation of parking issues, increases in sales of transit passes, and an enhanced public image of the agencies involved (6). The principal negative impact cited was increased crowding at transfer facilities. The report’s authors argue that schedule coordination would improve service quality most noticeably in the off-peak periods, when headways are longer. This could have the effect of increasing off-peak ridership, which is highly desirable for most transit agencies. “A commonly mentioned barrier was the limited opportunities for schedule coordination,” opportunities which are curtailed by financial consequences of changing a schedule and/or incompatible headway policies between agencies (6). Schedule integration practices have the advantage of being relatively quick to implement; capital investment is usually not needed, and the only cost could be some additional staff time spent coordinating schedules. However, its effectiveness is highly variable, from offering significant benefit at a small cost under some conditions, to offering negligible benefit compared to the money being spent in other situations. Examples of costs incurred by integrating schedules include wasted labor hours (if the schedule shift results in a sub-optimum allocation of driver time due to collective bargaining agreements) and the cost of investments in vehicle tracking technology to ensure more reliable transfers. Overall, however, schedule integration may represent a low-cost, high-reward opportunity for transit operators seeking to offer a more seamless passenger experience.

#### Characterization of Fare Payment Integration

Miller et al. report that fare payment integration is highly demanded by passengers who use multiple transit systems on a regular basis. Interagency monthly passes were the most common payment integration practice among agencies in the survey sample, likely because the barriers to implementing this procedure are less daunting than changing the regular fare structure, and the frequent transit riders who want payment integration are most likely to use these passes. Barriers to implementation identified

by the authors included technological and cost issues. Agencies usually required “that the program be revenue-neutral to the participating agencies and to the operating and capital costs of implementing fare coordination” (6). The authors find that fare payment integration generally represents a major benefit to transit passengers if it can be coordinated across all agencies in the region.

#### Characterization of Information Integration

Information integration is a practice that is now expected by the public in today’s digital, always-connected world. At the time of the study, agencies reported beginning information integration efforts in an attempt to provide regional transit information on a single website. Providing real-time travel information increases the perceived reliability and service quality of a transit system, without actually changing service. Miller et al. report that transit operators’ experiences with information integration were highly varied, with some agencies stating that such practices were effective, and others stating that they were not effective (6). We believe these attitudes may have changed in response to changes in technology since the transit study was published. Identified barriers to information integration were largely related to institutional inertia, funding constraints, or technological constraints, such as ensuring the reliability of an information system post-implementation (6). Integration of transit information relevant to passengers, either through the MPO, the agencies themselves, or a third party like Google, would likely increase ridership and perceptions of service quality at a relatively minor cost. With the rise of smartphones and their associated apps, a mobile-enabled single source for regional transportation information may be necessary to meet public expectations for service quality and to entice higher income travelers to ride transit.

#### Characterization of Special Event and Emergency Condition Integration

Finally, Miller et al. found that respondents regarded special event and emergency coordination as very important. Such practices were usually accomplished by interagency agreements, through the MPO, or the state agency tasked with emergency management. Respondents had very positive opinions of these programs, and highlighted fewer service disruptions during special events as an advantage in addition to the obvious benefits for public safety (6). Most agencies reported no barriers to this type of coordination, although unrealistic public expectations of service response times were cited as a possible negative aspect (6). In practice, this type of coordination has already been achieved to a high level in most US metropolitan areas due to the low cost of implementation and the high priority given to programs affecting public safety and emergency preparedness.

## Interview Methodology

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In researching this paper, we sought to understand the collective attitude towards transit consolidation in the Bay Area today, including whether consolidation is the interest of both transit riders in particular and Bay Area residents in general; what barriers exist to implementing the consolidation practices identified above; and what shape a more consolidated Bay Area transit system might take. To this end, we interviewed transit officials at MTC, BART, the San Francisco County Transportation Authority (SFCTA), the San Francisco Municipal Transportation Agency (SFMTA), AC Transit, and the Santa Clara Valley Transportation Authority (VTA). Officials at San Mateo Transit (SamTrans) and Golden Gate Bridge Highway and Transportation Authority (GGBHTA) declined our requests for interviews and we

were unable to find willing interviewees in these agencies before our deadline. The positions of interviewed officials within their agencies varied, from planning managers to deputy directors, board members, and budget directors. Subjects for this study were chosen through the professional networks of the study team and our colleagues; interviews were conducted with any professional who agreed to participate.

Based on our review of the literature, we developed three consolidation scenarios to present to our interview subjects. We characterized these scenarios using the elements identified by Miller et al., and also included our notions of what branding, governance, procurement, operations and maintenance would look like in each case. The first scenario is a generalized depiction of the Bay Area transit system as it exists today. The third scenario describes the Bay Area transit system as being operated by a single Bay Area transit agency that controls all capital investments and transit operations but is partitioned into local departments so as to be more responsive to local needs. The second scenario was designed as a 'halfway consolidation' wherein a regional transit agency consolidates administration, planning, and procurement activities; and individual operators meanwhile continue to provide service in their respective areas, with a higher level of coordination enforced by the regional agency. Different levels of branding and fare structure consolidation were also included in scenarios II and III to provide for benefits to the user experience in these cases. The descriptions of the scenarios were designed to be one page each are contained in Appendix A for reference, along with our interview questions.

We designed a battery of questions to learn about the respondents' views toward these scenarios, and more broadly, their opinions about transit agency consolidation in the Bay Area. From these interviews we sought to determine whether these experts believe consolidation would improve transit service and reduce the overall cost (including unpriced costs such as congestion and delay) of transportation in the Bay Area. We also sought to identify whether any of the barriers to consolidation identified from the historical literature still exist today, and if so, whether these barriers have become weaker or stronger in recent times.

### Limitations

We recognize the limitations of our method, especially the effect of conducting in-depth interviews with a small sample of Bay Area transit professionals. Under a compressed schedule, we contacted members of the major transit agencies while ignoring smaller ones. We were unable to get responses from SamTrans and Golden Gate before our deadline and their views have not been included in this report. Because of these limitations, our responses were largely San Francisco- and East Bay-focused. We would also have liked to hear from transit employees' unions and elected transit officials. In some cases, our requests for interviews were denied; in others, we could not identify an appropriate contact in time. Therefore, we caution that our summary may be of limited practical use in determining how to proceed with consolidation efforts. However, we believe our report will be quite useful as a means of identifying which specific aspects of consolidation merit further study, such as fare consolidation, branding, and joint procurement. It will also be useful in describing the professional environment in which any change will have to take place, revealing areas where there is consensus among professionals as well as identifying potential barriers to implementing consolidation solutions.

## Interview Results

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Overall, the interviewees' responses supported some form of consolidation. Most of the respondents agreed that Scenario I is an accurate characterization of the status quo and that it is not desirable to continue in the future. About half of the respondents felt that Scenario II did not go far enough in consolidating transit administration, but felt that Scenario III was undesirable or infeasible, and expressed support for a scenario that would combine aspects of Scenario II and Scenario III. Some officials representing less urbanized areas or who made references to the concerns of less urbanized areas in their remarks supported more limited consolidation, reflecting some blend of Scenario I and Scenario II. These officials made it clear that their support for consolidation would depend on whether it could be assured that consolidation could solve a particular transportation problem, and that consolidation was either the only or the most cost-effective way of doing so.

From a general interpretation of the respondents' remarks, we conclude that a consensus exists for greater consolidation but that this support stops short of endorsing a single regional transit agency for the entire Bay Area. There was significant support for the creation of a regional transit agency that controlled long distance transit as well as transit into and out of central San Francisco. Such an agency would consolidate BART service, Caltrain service, Transbay and Golden Gate bus service, regional buses moving north-south in the Peninsula and East Bay, and regional buses in Marin, Napa, Sonoma, and Solano counties. Most interviewee remarks centered around identifying individual actions toward consolidation that they would like to see adopted, or ideas of how greater continuity in regional transit service could be achieved.

### INFRASTRUCTURE INTEGRATION

Most respondents agreed that infrastructure integration is an important part of a consolidated network. The need to prioritize coordination of infrastructure projects was brought up by many of the participants. Some regional officials noted that such coordination is already in force for large projects, as large projects usually require funding that MTC controls; in exchange for this funding, projects are subject to MTC oversight. San Francisco officials expressed a belief that MTC needs to assume a greater role in regional transit infrastructure planning and to be given power to approve or reject projects submitted to it by local agencies based on regional goals. Most respondents stated that regional coordination of infrastructure investments is critical to maximizing the effectiveness of these investments and reducing cost and waste. Some officials also stressed the importance of coordinating transit infrastructure investments with adjacent land uses to maximize the positive effects of such investments. Compared to the findings of the Miller et al. study, responses to infrastructure integration were not as strongly positive, perhaps owing to the high monetary cost of such improvements and the difficult financial climate that has dominated the past five years.

### SCHEDULE INTEGRATION

Respondents acknowledged the benefits of schedule integration from a service quality standpoint but largely believed it would be difficult to implement. San Francisco officials noted that most Muni lines run frequently enough that schedule integration with BART or Caltrain may not necessarily be a concern. Several officials cited the difficulties in coordination between BART and Caltrain, despite the integrated infrastructure at Millbrae that facilitates transfers between the two services. Schedule integration

between these rail services is difficult because Caltrain's schedule is inflexible due to a shared right of way with limited sidings, while BART's schedule is dictated by the frequency of trains running through the capacity-constrained Transbay Tube. Greater coordination may be achieved by adjusting BART schedules in the off-peak, when there is greater flexibility through the Transbay Tube.

Another schedule integration difficulty mentioned by interviewees is the fact that many agencies use different software programs for route scheduling. It is therefore difficult for agencies to share schedules or to coordinate electronically. Using a single scheduling software vendor for all Bay Area transit agencies would aid efforts to coordinate transit schedules. Additionally, some operators release schedule changes without either consulting with other agencies or even sending advance notice to agencies whose service has scheduled connections. Many officials claimed their agency would be open to greater schedule coordination, though some modification of in-house business practices, such as deadlines and notification protocols for schedule changes, would be needed. This contrasts with responses from the Miller et al. study's national sample, wherein such changes were considered easier to implement. Overall, greater schedule coordination could be accomplished without major changes to transit administration in the Bay Area, but a more consolidated system could also achieve this aim.

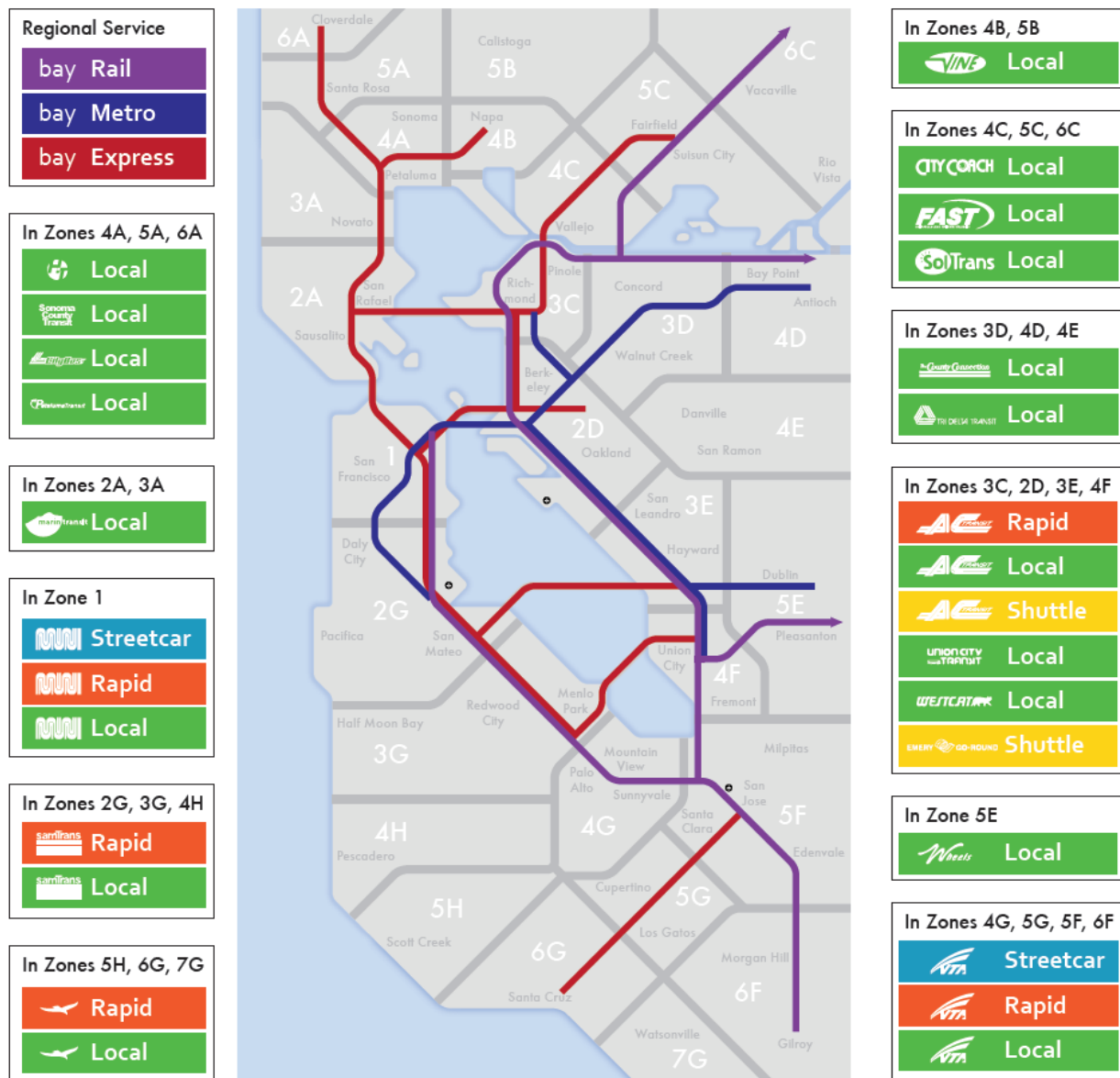
### **FARE PAYMENT INTEGRATION**

Greater fare payment integration was widely supported by the surveyed officials, but significant barriers were identified to adoption of a Bay Area-wide fare policy. One of the most commonly cited issues is that BART operates with a distance-based fare, with fare gates, while most bus services operate on a flat rate. While the Bay Area already has a unified payment system, MTC's Clipper contactless smartcard, operators cited technological issues with Clipper that prevented agencies from making internal changes to their fare structure, such as peak and off-peak pricing, and remarked that in their understanding it would be difficult and costly to use the Clipper payment system as a vehicle for fare payment integration. A potential solution that was supported by about half of the respondents was to adopt a Bay Area-wide zone based fare structure, similar to that in Greater London. Within each zone, there would be a one way fare, a round trip fare, and a day pass fare. The fares could be valid for all modes, or the one way and round trip fares could be different for rail and bus if desired. Trips passing through more than one zone would require fares increasing with each zone traveled through. There would be no transfer fees, as the added cost of travel through multiple zones would capture revenue for long-distance travel. Essentially, a passenger would pay a fare that would 'unlock' one or any number of zones for a set period of time. The fare card would then enable access to gate control mechanisms and proof of payment for bus and light rail during that time, allowing for unlimited transfers within the time allotted. Such a system would reduce the complexity passengers experience when using multiple lines. A representation of what this fare zone system could look like is shown in Figure 3.

Most respondents were also concerned about ensuring that any fare payment integration effort is revenue neutral for individual agencies. San Francisco officials placed less importance on whether the funding amounts for individual agencies were the same because they were interested in redistributing regional transit funds based on performance measures. In such a scheme, the integrated fare payment revenue would go to the regional transit agency and each agency would have the incentive to improve its share of farebox revenues via performance improvements. This was a revolutionary proposition compared to most other respondents, who saw fare payment integration as a method to improve service quality and ridership by making the transit system easy to use. These respondents supported a

bounty paid by regional operators to local operators who provide feeder service, as suggested by the San Francisco Planning and Urban Research Association (SPUR). According to SPUR, such a bounty system has the dual benefit of encouraging better integration of local service and regional service, as well as making fare payment more straightforward (7). Despite the diversity of views among interviewees, all of the agency officials interviewed believed that fare payment integration is an important goal and should be a priority for those seeking to make Bay Area transit more effective.

**Figure 3: A Visual Representation of Possible Fare Zones and Branding**



**BRANDING**

All respondents had positive responses to the concept of a unified Bay Area brand, at least for regional transit. Respondents differed on whether that brand should be applied to all local operators. Most believed that branding should be applied alongside other integration efforts that are visible to the



passengers, such as fare integration and joint procurement. Some respondents believed the individual agencies should keep their identities, but that Bay Area-wide standards should be created for branding so that locals and out-of-towners alike can quickly identify similar services, even if operated by different agencies.

One respondent suggested that individual lines be given the same color, title, and iconography depending on the type of service. For instance, all local bus lines, whether operated by Muni, AC Transit, SamTrans, or VTA, would have the same iconography on signage and maps. The buses themselves would have slightly different livery depending on the agency, but they would also display branding indicating they are “Bay Area Local” service. Regional bus service would also share a single identity, and regional bus stops could be improved to show that the stop is part of a Bay Area-wide regional network. Rail branding could be updated to be part of the Bay Area brand as well. We found this idea interesting and created Figure 3 to allow use to visualize how this unified branding, combined with a unified fare structure as referenced earlier, might look if implemented.

### **INFORMATION INTEGRATION**

Respondents were unanimous in their thinking that information integration can be implemented right away. Several respondents stated that MTC’s 511 website ([transit.511.org](http://transit.511.org)) is inadequate and should be revamped to be more user-friendly. Respondents agreed with Miller et al.’s characterization of information integration and felt that there were minimal barriers to increasing information integration among Bay Area transit agencies. Some respondents noted that such integration would be most effective when coordinated with branding efforts, to make the trip planning experience for Bay Area transit customers as seamless as possible.

### **SPECIAL EVENT AND EMERGENCY INTEGRATION**

Respondents all believed that the Bay Area has excellent emergency transit plans in place, and indicated that much planning has gone into how to handle traffic if a bridge or the Transbay Tube were lost due to an earthquake. Some officials proposed that special event integration should be coordinated across all Bay Area agencies, so that if one agency has a need for additional buses due to a special event, then other agencies could loan the buses and operators to increase local capacity where needed. This could be done within the agency structure; however, other consolidation efforts, such as the adoption of a single bus type for the Bay Area, could make this process even easier to implement.

### **GOVERNANCE AND SAN FRANCISCO’S ROLE IN THE REGION**

Many respondents’ comments focused on San Francisco’s role in the region. San Francisco officials noted that roughly 50% of the trips into the city’s central business district originate outside of San Francisco. Despite having a relatively small share of the region’s population, San Francisco has a great interest in regional transportation due to this rider behavior. Several officials, both inside and outside San Francisco, suggested that BART should take the lead in regional transportation, consolidating its rail service with regional bus services ceded to it from local bus operators. The case of the Washington, D.C. metro area, where the Washington Metropolitan Area Transit Authority (WMATA) runs the regional rail system as well as all buses that enter or operate within the District of Columbia, separate from and complementary to local bus service, was mentioned by a number of officials. Washington D.C.’s example is especially relevant given the complex government situation in the region, with federal,

state, city and county governments each having a role in the process. Following such an example would acknowledge the complex structure of government that exists in the Bay Area.

San Francisco officials also were supportive of a regional transit governing body that has representation apportioned to districts based on numbers of trip ends (arrivals and departures). This would give population centers and job centers more control over the transit system that they depend on for economic vitality. East Bay officials tended to disagree, noting that Oakland could be underrepresented in such a situation, potentially leading to underfunding of service to Oakland or a disregard for the city's needs. South Bay officials thought ridership-based representation was an interesting proposition but not politically feasible. One respondent mentioned that ideally more jobs would be located in Oakland, which is at the nexus of the regional transit system; although he acknowledged that this suggestion was beyond the scope of this study. The tension between San Francisco and the other cities in the region constitutes a major barrier to implementing a fully consolidated regional transit agency.

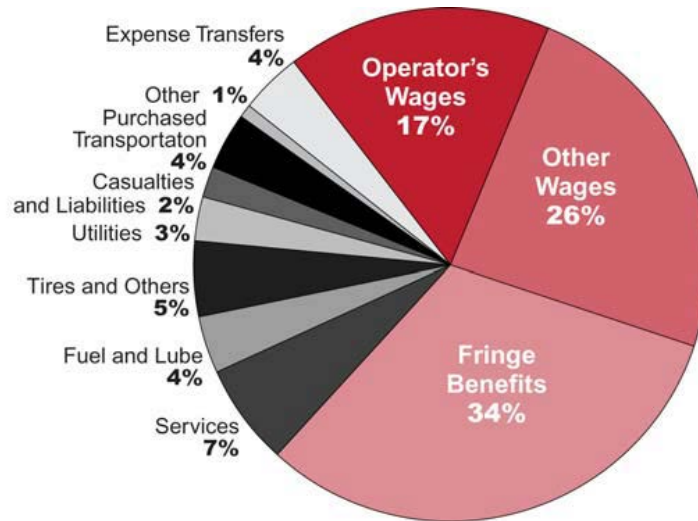
The question of governance of an agency with increased power over Bay Area transportation is fraught with political quagmires. As a result of the political process, such an agency may not necessarily be able to achieve the structure necessary to support optimal transportation policy in the Bay Area. In most comparative examples of transit consolidation, the central city of a region exerts the most influence on regional transit governance. This is necessary in order to ensure that the central city, often the primary economic engine in the region, is able to provide enough people access to the core despite not living in the city. In the polycentric Bay Area, this idea becomes more complex; however, the structure of regional transit governance can have major implications for the success of individual cities and the region itself.

### **DATA SHARING**

Most officials stated that their agencies currently have no institutional policies that prevent sharing data with other agencies, and that, to their knowledge, data sharing is encouraged. These officials said that the major barriers to increased data sharing are the disparity in collection methods between agencies and the different formats in which transit data are collected and stored. All respondents indicated their agencies would likely support actions to improve data sharing between Bay Area transit agencies, such as implementing data collection standards and moving all of the agencies to use one format to store and transmit transit data.

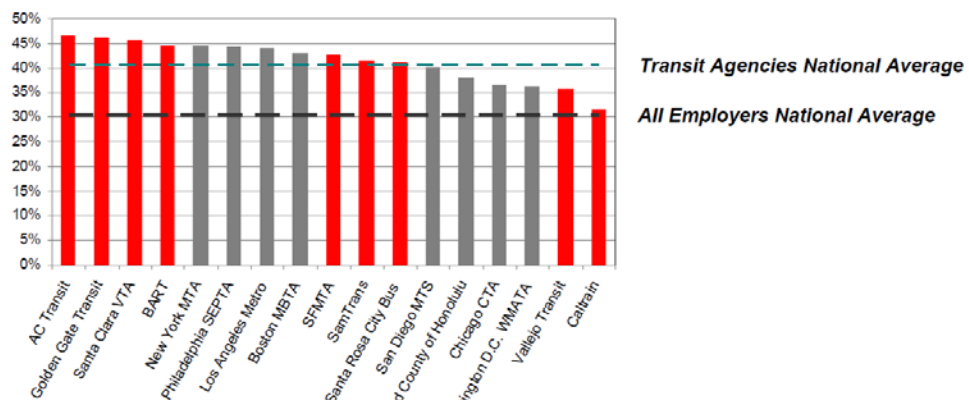
### **JOINT PROCUREMENT OF EQUIPMENT / OPERATIONS / MAINTENANCE**

Operators strongly supported joint procurement of equipment. Several respondents suggested the agencies adopt a "Bay Area bus" that all of the operators commit to buying. With a single bus model, the operators would save on procurement, purchasing a fleet in greater quantities than each could alone and giving them more leverage on price. Operators would also be able to save on pooling maintenance depots, replacement parts and technicians. San Francisco officials were interested in these savings, as well as the potential to use other agencies' drivers and equipment to make up for temporary shortfalls or spikes in demand. Other bus operators were also supportive of this idea and indicated that their repair facilities do have excess capacity that could be shared with other agencies.



**Figure 4: 2008 Operating Costs for 7 Largest Bay Area Transit Agencies (I).**

There exist some significant barriers to joint procurement, joint operations and maintenance. The greatest concern raised by respondents is the operators' union agreements. Changes to these agreements would have to be made to allow the procurement of new bus types. Some respondents were concerned about assuming other agencies' pension and liabilities if employees were shared between agencies. These fringe benefits account for a great deal of agencies' total cost, as shown in Figure 3, and some agencies have been identified as having especially large obligations relative to their monthly operating costs, as shown in Figure 4. It was also noted that all of the agencies have different specifications for buses they procure. In order to implement joint procurement, agency specifications would have to be coordinated to ensure that one bus would meet the requirements of all agencies. Changes to these specifications would likely also involve elected official acquiescence and employee union negotiation. Despite these significant barriers to implementation, most respondents supported joint procurement as a way to introduce cost savings through using slack repair capacity, purchasing economies of scale, and pooled capital and labor resources.



Source: FY2008 National Transit Database "Table 13: Transit Operating Expenses by Mode, Type of Service and Object class." U.S. Department of Labor (Employers' National Average)

**Figure 5: Employee Benefit Costs as a Percent of Total Compensation (I)**

## **FUNDING**

Funding was a major concern among the agency officials who were interviewed. Overall, those who supported a stronger regional transit agency supported giving this agency greater access to fare revenues and transportation dollars obtained from sales tax, state and federal sources, and more control over disbursement or withholding of these funds. Performance-based measures, similar to those described in the MTC report, were promoted by about half the respondents. Proponents believed that performance-based measures would encourage innovative internal agency policies and lead to improvement in areas that are currently not incentivized, such as controlling rising costs per rider, improving the user experience, and decreasing traffic congestion in specified corridors.

Some agency officials supported a more holistic look at transportation funding, suggesting that revenues from automobile users be captured by the regional transit agency or MTC for use on transit. Such revenues include toll revenues (currently captured by individual counties through Joint Powers Agencies) and parking revenues. Interviewees suggested coordinating these pricing controls with transit service investments in the common corridors with the ultimate goal of shifting trips from auto to transit.

## **PLANNING AND RESEARCH**

All officials believed increased coordination of planning and research was an important goal for all Bay Area transit agencies. Respondents differed as to how well agencies were currently performing in this area. Officials from regional agencies indicated they were happy with the level of coordination of planning and research. Transit operators generally indicated that more could be done but that the agencies themselves were not opposed to the idea. Officials were generally against consolidating all Bay Area transit planning and research at a single site, and preferred instead to keep the planners as close to the operational managers as possible. Therefore, most respondents envisioned planning efforts taking place at individual agencies with a high degree of coordination between agencies to reduce redundant or conflicting plans.

## **Conclusion**

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The officials we interviewed all believe that there is some role that consolidation of the Bay Area's various transit services can play in improving the passenger experience and reducing costs. All respondents mentioned these benefits as goals for any consolidation effort, with at least one remarking that "we should not consolidate for consolidation's sake." None of the respondents were in favor of establishing a single transit agency for the entire Bay Area; however, there was significant support for integrating regional bus and rail, coordinating planning and procurement efforts, as well as greater cooperation between agencies. From our review of literature and the results of the interviews, we make the following conclusions about the consolidation of Bay Area transit agencies:

**Consolidation, or at least the appearance of consolidation, is needed to improve the passenger experience and service quality for riders.**

A unified fare structure and clear Bay Area branding would benefit all riders and encourage greater use of transit systems.

From a passenger standpoint, routing, transfer information and the class of service (local, regional bus, etc.) need to be clear and recognizable. While individual services might keep elements of their unique livery and identity, similar services (such as local bus, express bus, bus rapid transit, light rail, and metro rail) could be given standardized branding that identifies a specific category of service. Customers would come to associate certain wait times, travel speed, amenities and fares with these categories. The categorical branding should be present on stops, maps, signage, and the vehicles themselves so as to create a uniform user experience across agencies. Such improvements would link Bay Area transit services together in the customer's mind and present a uniform experience for transit riders, which will improve perceptions of the system.

The fare structure should be made uniform by eliminating transfer payments and allowing a customer to pay for his or her entire journey at a single fare kiosk anywhere in the region. This would have the immediate benefits of being simpler for the user as well as reducing the wasted time associated with paying cash fare upon boarding a bus. Fare zones could be instituted to allow for different fares in each service area—a passenger would pay a flat fare for journeys within a single zone, regardless of mode. Distance-based fares could then be implemented for pricing between zones. On buses, which have no swipe in/swipe out capability, enforcement similar to today's proof of payment would be required; enforcement officers could scan a Clipper card to ensure its validity for the zone in which the bus is travelling. Such enforcement could be targeted at buses and light rail that travel between zones to ensure that correct payments are made. These improvements would result in a transit system that would be more desirable and accessible to riders.

**Regional bus and rail service should be combined into one agency.**

Many major metropolitan areas have regionally-administered bus and rail lines feeding into the urban core, while leaving local service in suburban areas to the jurisdiction of local agencies. Defining a governance structure for such a regional agency in the Bay Area will be politically contentious, but we believe it should be organized to give the locales with the greatest stake in regional transit the greatest control over this agency. Washington, D.C.'s Metro is an excellent example, given that the Washington metropolitan area is made up of two states, five counties and the District of Columbia. WMATA controls all bus and rail service operating within the District, as well as the services that carry regional passengers into and out of the District. On WMATA's board, the District and the Federal government hold four seats, while four seats are divided between the surrounding five counties. A similar system of governance could work in the Bay Area as a way to ensure that the urban core is able to maintain service for the regional passenger traffic on which it depends.

A single agency controlling regional bus and rail would ensure that Bay Area residents are able to clearly understand their choices for long distance regional travel. We hypothesize that most people in the Bay Area think only of BART or Caltrain when considering long distance travel within the region. Co-branding regional bus service with these rail services will increase awareness of transit choices, while improving accessibility to the regional network. In areas where rail services are not provided, regional

bus service can connect and feed rail in a coordinated manner. Similarly, redundant service, such as Transbay bus service, can be evaluated alongside rail service and made more responsive to ebbs and flows of demands, improving the resiliency of the system. In periods of peak demand, Transbay bus service could augment the capacity of BART, and in slack periods, the redundant service could be curtailed. This would enable more effective use of vehicles and other resources. A truly regional transit agency that provides top-level service would do a great deal to make the Bay Area transit system more unified and easier to navigate.

**Joint procurement and maintenance would likely result in significant cost savings.**

Using a single type of bus for the Bay Area makes sense, as large purchasing orders (shared across multiple agencies) would give the agencies greater leverage over the manufacturer in purchasing negotiations while also reducing costs via volume discounts. Commonality of parts could also result in significant cost savings as part inventories could be shared between agencies and parts could be purchased in bulk. Further savings could be achieved by consolidating maintenance facilities and introducing a Bay Area-wide maintenance hierarchy. Frequent, non-complex maintenance could be done at small depots near all service areas. Major, infrequent maintenance could be done at large shared depots located where land values are low. Pooling these resources would ensure maintenance funds were always being utilized to their maximum effectiveness. Operators and technicians could be more transferrable between agencies, as they would be trained to operate and maintain the same equipment. Since every agency would operate the same bus models, there would be in effect a large regional pool of the same model vehicles, technicians and operators which cooperating agencies could draw upon to augment service in the event of a disruption, disaster, or strike. Such commonality improves the reliability of the regional transit system.

Action would need to be taken to overcome significant barriers to joint procurement. All agencies would need to have compatible specifications for new vehicles that would enable one bus model (with variants) to fit all criteria for all agencies. A regional decision maker, perhaps MTC, would have to make the ultimate determination as to which model of vehicle should be purchased, and that decision would need to be binding. It would be necessary to reach agreements with labor organizations to ensure buses would be compatible with the operators' contracts and to facilitate driver input into the selection process. Maintenance facilities and technicians would likely be consolidated under a subcontract to a private agency that would provide maintenance for the vehicles; the specifics of this agreement would likely be subject to political scrutiny. However, these barriers are not insurmountable and it is our belief that joint procurement would result sufficient in cost savings for all agencies involved to justify the effort.

**There are many low-cost, low-barrier consolidation efforts that could improve service, reduce cost and be implemented today.**

The Bay Area should adopt a regional data collection standard to facilitate sharing of data between agencies. Long range planning efforts should be coordinated between agencies and projections and data widely available. These measures could perhaps be incentivized using funding controls. Transit information should be made available to the public via a single source, which would have elements of Bay Area-wide branding. This information should be presented in a well-designed, easy to read format that promotes the ease of interagency transfers. Agencies should also prioritize greater schedule coordination at locations identified as critical to regional transportation goals. Many of these actions

require minor changes in internal policy or meetings where standards can be agreed upon between all agencies. In some cases, there are reasons for different policies within different jurisdictions, but in other cases in the Bay Area, a single standard or best practice would be more effective.

Many of these conclusions merit further study. A passenger survey, for instance, could be launched in the field to investigate whether riders anticipate fare consolidation and unified branding would significantly improve their user experience. It would be important to distinguish between regular riders, occasional riders, and tourists or out-of-town riders in this survey to see which elements are important to each group. An economic analysis would be helpful to quantify the savings associated with joint procurement and maintenance, especially when measured against the potential costs of making such a change. These studies could determine whether these consolidation efforts are worth pursuing.

The Bay Area is unique in its geography, political structure, and attitudes towards transit. In the past, these factors have resulted in disunity and in the creation of 27 different agencies to provide transit to Bay Area residents and visitors. While consolidating all of these agencies into one is too great of a step to be taken all at once, more modest measures can be taken to make transit less confusing to navigate, less costly to operate, and more responsive to the needs of the region as a whole. Such improvements will increase ridership and improve the experience for passengers. They may succeed in reducing auto congestion if more drivers are drawn to an attractive, effective public transportation system. Consolidation measures require close cooperation between agencies, the sharing of resources and capital, and the political desire to create a system that is best for the region. Political myopia, bureaucratic inertia, and short-term costs stand in the way of implementation, but ultimately what is most sorely needed is leadership with the foresight to recognize the benefits of consolidating certain aspects of the transit system. The first step, perhaps, is to see the Bay Area itself as a single system and not as a collection of cities, counties and agencies. Once we do, the transit network can be seen as more than the sum of its parts.



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## **Appendix A: Interview Materials**

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Attached to the following pages are the materials used during the interviews. Participants were provided a copy of the scenarios electronically the morning of the interview and were given paper copies of the scenarios to reference. The question list was kept by the study team and used to guide conversation. The study team attempted to guide comments towards the specific questions listed on the question list as well as references to the various elements of consolidation listed as sub-headings on the scenario sheets.

## **Scenario I: Status Quo**

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### **INFRASTRUCTURE INTEGRATION**

Identified individually and jointly between agencies. Investments are made with matching funding from participating agencies, MTC, as well as State and Federal programs. Intermodal transfer stations, like Millbrae and the Transbay Terminal, come as a result of partnerships between agencies.

### **SCHEDULE INTEGRATION**

Purely voluntary on the parts of the agencies concerned. In some areas, service is highly coordinated between agencies and modes. In others, it is not coordinated.

### **FARE PAYMENT INTEGRATION**

One unified payment card (Clipper card), different fare structures (i.e. BART is a distance based fare, Muni is a flat fare). Transfers between systems are not uniformly applied.

### **INFORMATION INTEGRATION**

MTC provides a website that gives travel information and itinerary planning for all participating agencies. Third parties provide services and apps (Google Maps Transit, NextBus, SmartRide), that provide real-time vehicle tracking and trip routing across multiple agencies.

### **BRANDING**

Each transit operator operates under its own brand. Regional and County Transportation Agencies remain largely unseen by the general public.

### **SPECIAL EVENTS AND EMERGENCY COORDINATION**

Done on mutual agreement between agencies. BART and AC Transit have an informal agreement to provide backup East Bay and Transbay service.

### **DATA SHARING**

MTC provides regional data resources and modeling based on population and economic forecasts. San Francisco maintains its own transportation model (SF-CHAMP) that offers more detail and uses some of the regional data from MTC as inputs.

### **JOINT PROCUREMENT OF EQUIPMENT / OPERATIONS / MAINTENANCE**

Agencies cooperate on an ad-hoc basis, but otherwise procure fleets based on independent lifecycle and service requirements. Maintenance facilities are not shared. Employees are not shared between agencies.

### **JOINT FUNDING PROPOSALS**

Agencies cooperate on funding proposals with each other and MTC on projects that benefit each agency's constituency.

### **PLANNING AND RESEARCH**

MTC does regional-level planning; each agency creates a long term plan that is based in part on MTC's projections and coordination with MTC and other agencies. Each agency's plan has precedence within its own jurisdiction. Agencies collaborate with each other and MTC on research on an ad-hoc basis.

## **Scenario II: Top Level and Branding Consolidation**

### **(Regional Transit Agency, Individual Operators)**

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#### **INFRASTRUCTURE INTEGRATION**

Identified by regional agency with input from local operators. Capital investments are made with matching funding from participating operators, the regional agency, as well as State and Federal programs. The regional agency directs which projects receive priority funding.

#### **SCHEDULE INTEGRATION**

Coordinated at key locations identified by the regional agency based on regional transportation patterns. Generally these areas will also require integrated infrastructure as well.

#### **FARE PAYMENT INTEGRATION**

One unified payment card (Clipper card), different fare structures (i.e. BART is a distance based fare, Muni is a flat fare). Transfers are uniform between systems.

#### **INFORMATION INTEGRATION**

Same as Scenario I

#### **BRANDING**

All transit operators operate under a single Bay Area Transportation brand. Operators are considered divisions of that larger brand and are subcontracted to the regional agency.

#### **ORGANIZATION/GOVERNANCE**

The regional transit agency is governed by a board consisting of directors elected by district. Districts are apportioned to have an equal number of trip ends (origins and destinations) and reapportioned every 10 years. The regional agency provides branding, administration and long range vision. The transit agencies exist as operators that are independent but provide service to the regional agency.

#### **SPECIAL EVENTS AND EMERGENCY COORDINATION**

The regional agency formalizes coordination between operators during these events.

#### **DATA SHARING**

Same as Scenario I

#### **JOINT PROCUREMENT OF EQUIPMENT / OPERATIONS / MAINTENANCE**

Operators cooperate on fleet procurement when possible. Lifecycle and service requirements are adjusted over time to become compatible, accounting for local variation in usage. Maintenance facilities are shared when possible. Employees could transfer between operators but each operator maintains its own personnel structure.

#### **FUNDING**

The regional agency directs and prepares all capital funding proposals with consultation from operators. Operators fund their own operations. The agency would have access to new revenues (tolls, sales tax) that had previously gone to individual counties, to allocate based on regional goals.

#### **PLANNING AND RESEARCH**

The regional agency does all planning; includes a regional plan and local (citywide) plans. The agency ensures that there are no conflicts between plans. Research resources are pooled and directed towards areas with the greatest regionwide benefits. County Transportation Agencies and operators spin off any transit related planning efforts into the regional agency.

## Scenario III: Single Transit Agency

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### **INFRASTRUCTURE INTEGRATION**

Locations that need intermodal stations are identified by regional and local planners at the agency. Redundant lines are eliminated. Portions of existing lines that are redundant are consolidated to fewer lines that run more frequently. Toll collection and parking enforcement may be included in the agency, if desired to better coordinate TDM schemes with transit. TODs may be developed through partnerships between the regional agency and the city in which they are located.

### **SCHEDULE INTEGRATION**

In high traffic areas, schedules are coordinated based on regional transportation patterns as much as possible. Arrivals at intermodal stations should all be coordinated.

### **FARE PAYMENT INTEGRATION**

Same fare structure and payment. The fare structure could be take a variety of forms, but likely zone based, grouping areas with similar attributes into a single fare zone. Fares could also be distance based for rail and flat for buses. The fare structure should be designed to be easy to understand.

### **INFORMATION INTEGRATION**

The agency provides a website that gives travel information and itinerary planning for all trips. Third parties provide services and apps (Google Maps Transit, NextBus, SmartRide), that provide real-time vehicle tracking and trip routing as well.

### **BRANDING**

All transit operations are part of a single Bay Area transit agency.

### **ORGANIZATION/GOVERNANCE**

The regional transit agency is governed by a board consisting of directors elected by district. Districts are apportioned to have an equal number of trip ends (origins and destinations) and reapportioned every 10 years. The regional agency provides branding, administration and long range regional planning. Each transit operator reorganizes as a division of the single agency divided by geography and mode. SFMTA's street division would be returned to the City and County of San Francisco.

### **SPECIAL EVENTS AND EMERGENCY COORDINATION**

The agency establishes and publishes procedures for this case systemwide.

### **DATA SHARING**

The agency maintains regional and local data resources and modeling based on population and economic forecasts.

### **JOINT PROCUREMENT OF EQUIPMENT / OPERATIONS / MAINTENANCE**

The agency operates as few types of vehicle as possible to save on maintenance. Lifecycle and service requirements are adjusted over time to become compatible, accounting for local variation in usage. Maintenance facilities are common and located to be the least costly. Employees are all working for the single agency, which has divisions based on location and mode. Dynamic scheduling of drivers could reallocate human resources to areas of high demand when needed.

### **JOINT FUNDING PROPOSALS**

The agency directs and prepares all funding proposals and funds all operations and capital projects. The agency would have access to new revenues (tolls, sales tax) that had previously gone to individual counties, to allocate based on regional goals.

**PLANNING AND RESEARCH**

The agency does regional-level planning; each local branch creates a long term plan that is subordinate to the regional plan (similar to the relationship between a community plan and a general plan). Research resources are pooled and directed towards areas with the greatest regionwide benefits.

**Interview Questionnaire**

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Do you think that Scenario I is an accurate characterization of the status quo, given that it is a generalized description of how these agencies interact?

Which scenario do you think would best serve Bay Area transit riders in terms of service quality (travel time)?

What are the most attractive aspects of this scenario?

What are some drawbacks of this scenario?

Do you believe that your agency would support the scenario you chose?

What do you see as the biggest obstacles to implementing the scenario you chose, if you chose II or III?

Followup: Do you believe this scenario to be infeasible?

If you chose scenario I, did you do so because you believe it to be the best option or because the costs or barriers involved in a restructuring would outweigh the benefits?

Which scenario do you think would most improve the region economically? Is this different from the scenario you chose before?

What factors are the most important to consider when evaluating consolidation of these agencies?

Are there any other comments you would like to add about consolidation?