

Assessment of the Planning and Decisionmaking Process

The preceding section has provided an assessment of rail rapid transit planning in the San Francisco Bay Area in rather broad and comprehensive terms with an emphasis on the context that shaped major decisions. By contrast this section will be more like a completed questionnaire.

To provide for commonality among case studies and ease in cross-referencing, key aspects of the planning and decisionmaking process are described here under categories corresponding to the guidelines for assessment. Many of these topics are discussed in greater depth in the critical history.

INSTITUTIONAL CONTEXT

By contrast with other metropolitan areas the San Francisco Bay Area can be said to have a greater need for regional institutions. Its political geography is more fragmented perhaps than any other excepting New York: nine counties, about a hundred cities, and several special districts.²⁷ By tradition, primarily because of California's large number of urban areas, the State generally stays out of regional affairs, thus leaving a vacuum of leadership.

The interdependency of the various parts of the region reinforce the need for regional institutions. The high degree of economic specialization in the various subareas have increased the Bay Area's dependence on both the passenger and goods movement transport links between communities. Different parts of the region specialize in agriculture, manufacturing, and shipping, while the City of San Francisco increasingly specializes in finance, government, and business administration. Yet until the modern era there were few good regional transportation facilities. One reason was

the difficulty of meeting the enormous cost of penetrating the formidable mountain and water barriers separating many parts of the region.

Despite the need for strong regional institutions, the jurisdictional fragmentation of the Bay Area is a major obstacle to their formation. The principal city, San Francisco, may be dominant in cultural, financial and many other affairs of the region, but it comprises a smaller percentage of the metropolitan area population—about 15 percent—than any other major metropolitan area central city. San Francisco County (identical with the city) is not even the biggest county but ranks third in population among the nine, Oakland has always competed with San Francisco, making regional cooperation difficult. More recently San Jose has grown to surpass Oakland in size, and despite its close economic and social interrelationships with the rest of the Bay Area, San Jose and Santa Clara County increasingly have tended to seek their independence. Since San Jose is recognized as a separate SMSA, it often has sought to keep Bay Area regional agencies from interfering in affairs it regards as its own.

Forum for Decisionmaking

Efforts by business leaders and regionally oriented political leaders to create strong regional organizations in the Bay Area repeatedly failed because of opposition from local home rule protectors and many non-San Francisco business and political leaders who feared domination by San Francisco interests. Efforts were made to create various types of organizations ranging from general purpose regional government to transportation authorities with multipurpose transportation responsibilities. Instead of strong forums, however, weak agencies resulted that are viewed by regionalists as interim study groups created to satisfy minimal planning requirements.

The only significant regional institutions prior to the BART planning era were created for specific major projects such as the Golden Gate Bridge, the San Francisco-Oakland Bay Bridge, and several

²⁷ According to the *San Francisco Chronicle* (April 26, 1968, p. 40), the nine-county region had at that time 91 cities, 17 regional agencies, 194 school districts and 555 special districts—a total of 866 units of government, all with the power to tax.

other public works projects. Even the BART planning effort was essentially a project planning effort, despite the comprehensiveness of the regional land development study and other aspects of the 1954-56 work.

During the BART planning period BART was generally perceived as the regional transit planning forum because of the lack of other forums. This was somewhat of a misconception, since highway planning went on as before in the (then) State Department of Public Works; local short-haul transit needs went largely ignored in the BART planning effort, and other transportation needs (railroads, ferries, ports, airports, etc.) continued to be handled on an ad hoc basis. Between 1956 and 1962 even the regional scope of the BART project planning effort was being lost as the number of counties involved shrank from nine to three.

In reality because of the limited scope of the BART project as it moved forward to implementation, there was no clear forum for regional transit issues other than the BART project until about 1973 when the Metropolitan Transportation Commission began to prepare its transportation plan and to assume its other responsibilities. Efforts of the officially recognized regional planning agencies to provide this forum prior to the MTC period were generally unsuccessful. Such agencies as the Association of Bay Area Governments, (1960 to present) the Bay Area Transportation Study Commission (1963-69) and the Regional Transportation Planning Committee (1969-70) were all the result of compromises that satisfied Federal requirements without creating any real forum because of their lack of power. They had no taxing power, no control over the allocation of funds, no veto power over regional projects and their plans were not binding on any units of government that have the real transportation powers.

The Metropolitan Transportation Commission, created in 1970, however, does have significant powers, on paper at least (see page 7), and has become a serious forum on at least a few issues. If one counts the pressure the commission brings to get officials to reach agreement before it must act on plans, programs, or the allocation of operating funds, MTC has become one of the more effective regional transportation forums in the country.

There is a strong political momentum to create a new, more powerful regional planning agency in the Bay Area which will assume the powers of

MTC, ABAG, and several other regional agencies. In 1974 a bill narrowly failed in the legislature after a compromise agreement had been reached by most interested groups. It would, in effect, have created a limited regional government. Many observers believe this effort will be successful in the near future and will result in a regional planning body that will have substantial powers, including powers to make the significant regional transportation decisions.

Accountability of Decisionmakers

The BART board, like most transit planning agency boards, was composed of officials appointed by elected officials of the local jurisdiction until 1974, when direct election of the board was instituted. The new board members each represent districts of roughly equal population in the three-county area. The drive to achieve direct election reflected a desire to achieve greater accountability of the board to the public.

The Bay Area is in the forefront of this movement within the regional planning field nationally. The AC Transit Board has been directly elected since its creation in the late 1950's. (However, the fact that AC Transit is well respected nationally as a successful transit operator probably reflects the quality of management and its direct access to property taxes more than the fruits of direct election per se.)

BARTD's board has been perceived by many critics as being unresponsive to communities during the implementation process. There is enough evidence of BARTD's insensitivity to community concerns to conclude that this drive for direct election was well motivated, although it may have been belated because it did not go into effect until the construction period was over. Direct election of a regional body is probably more logical when the regional agency is involved in a wide range of issues of general public concern and the expenditure of large amounts of money is occurring, not when a major project is completed and an agency's responsibilities diminish to relatively routine operating matters.

One of the problems with direct election of a board of this type is that it will tend to build a political constituency around narrowly defined agency functions and special interests. A second potential problem is that the added permanency it will tend to create for the existing agency structure will hamper the evolution of a broader regional

planning framework or more general purpose regional government. Third, there is the danger that once construction period is over and public interest in the affairs of a transit agency diminishes, the elected board will cease to be accountable to the public because of the lack of open competition for office and the lack of media coverage.

For all these reasons it makes sense to consider direct election of a transit agency board as a temporary governmental mechanism that would be replaced after the construction period by a permanent operating agency structure under control of a regional general purpose government or a board representing local general purpose governments.

MTC's Commissioners are appointed as were the members of BARTD's board before the direct election legislation. The difference in accountability to the public is not so much a reflection of differences in institutional structure in the sense of who is represented by whom as it is a reflection of the type of decisions which the legislature has given to the organization. MTC is required to make decisions that inherently force the organization to make choices among competing interests of the various local governments and State agencies.

The board of the new regional planning organization proposed for the Bay Area would be composed half of directly elected representatives and half of representatives of local elected officials, according to the 1974 bill. In this way it potentially would be accountable to the public as a whole as well as to established local governments.

One of the more important lessons of the San Francisco experience is the danger of delegating too much power to consultants, and particularly to consultants with a rather narrow technical engineering focus as distinct from a broad multidisciplinary approach. Some of BARTD's difficulties in carrying out a sound planning process have been attributed to the close personal relationships between the board members and PB-T-B before the consultants were hired and the lack of oversight of the consultant's work that resulted. Consultants are unlikely to place top priority in conserving public funds unless appropriate contract incentives are created. They are more likely to seek to continue work in their field of specialization, and this self-interest may provide incentives to bias the results of planning studies in the direction of projects which will utilize their expertise.

Public Involvement

The approach to the public during the BART system planning process was seen almost entirely as "educational" from the early efforts to get the planning underway with the first BART Commission until the 1962 bond issue.

The selling program was a relatively low-key effort for the first several years, involving use of the media and major political and business leadership. B. R. Stokes, a journalist supporter of BART with the Oakland Tribune, was hired as BARTD's first employee to manage the public information program. The fall 1962 bond issue drive involved an intensive, well-financed campaign organized by Henry Alexander, a local public relations consultant. Flyers were mailed out to every voter. A speaker's bureau staffed with BARTD commissioners, staff, and community leaders made presentations before various public groups. Newspapers were actively utilized throughout the campaign building up to election eve. Alexander saw to it that the bond issue became Proposition "A" on the ballot for maximum voter identify. Almost all big political names lined up as BART supporters including both Richard Nixon and Edmund G. Brown, who were running for Governor.

The only general opportunity for involvement of the public in BART planning was the public hearing requirement in the legislation that could be invoked by any city through which BART passed during the time that BARTD was seeking agreements with each city subsequent to the bond issue. On several occasions this mechanism did provide opportunities to air differences and to bring public pressure to bear on BARTD. However, most cities did not take advantage of the hearing mechanism, and for the most part it was employed only when controversy had already arisen.

By contrast the BARTD extension studies that have been conducted since 1972 in several corridors generally have made well-organized and well-run citizen involvement efforts. The dramatic change in the approach to dealing with the public is due to several factors:

- General changes in public attitudes and demands as part of a nationwide trend (in which the Bay Area has been a leader);
- BARTD's increasing staff competence and the experience it gained during implementation of the basic system;

- . Demands of local governments to open up the process, partly in response to bad experience in the past and lack of trust in BARTD;
- UMTA's decision to channel all planning grants through MTC, an organization whose staff was strongly committed to an open public participatory process as part of its effort to build itself as a regional forum; and
- A basic change in the role of BARTD, Previously its primary mission had been well defined—public involvement was a source of potential delay in getting a fixed construction program completed within the framework of a fixed budget. Now BARTD needed to build popular support if any of the extensions were to be built; costs and time deadlines involved in studies were no longer serious problems.

Some of the BART extension studies provide good examples of citizen involvement in such study phases as formulation of work program; definition of goals, objectives, and evaluation criteria; definition of alternatives to be studied; and the process of selecting preferred alternatives. Some significant differences have arisen between the results of the citizen involvement and the recommendations of the "boards of control" which govern the studies on behalf of BARTD, MTC, and the local governments. It is likely, however, that the citizen involvement efforts ultimately will have a major influence on the final decisions in at least some of the corridors.

MTC's planning process has been one of the more intensive efforts in the country in involving the public in the preparation of a regional transportation plan. The staff regards its legislative mandate as reorienting Bay Area transportation programs toward a "transit first" policy. It has tried to use the citizen involvement process as a means toward that end. As a result MTC has put a very large portion of its effort into "town meetings" throughout the region. MTC frequently interacts with public interest and citizen groups and has produced and widely distributed some of the most readable and candid documents in this field.

TECHNICAL PLANNING PROCESS

Because BART's planning process was the first of the modern regional transit system planning efforts, there is less value in treating the technical aspects of this assessment in the same detail as other aspects, or in the same detail as is being done for more current planning efforts in other cities such as Denver. It is almost meaningless to rigorously apply current technical standards to a 20-year-old study because the field has evolved so rapidly. It would not be fair, nor would much be learned from it that could aid others today. Reference will be made, however, to aspects of the planning for BART extensions that carry lessons for other metropolitan areas.

Goals and Objectives

As discussed at length in the first section of the BART history, there evolved during the 1945-62 period a high degree of consensus among a wide variety of interests that BART was the regional transportation goal. The underlying motivations of the various interested groups, however, varied. The business elite wanted to develop a regional economic headquarters and to integrate the labor markets and productive centers of the Bay Area. Most elected officials and much of the public were concerned about congestion and the negative impacts of freeways. Most urban planners coupled these concerns with a strong vision of the role of transit as a catalyst in the city renewal process.

In the style of the times, no formal goal-setting process occurred, nor do the technical reports deal with goals and objectives in the manner that since has become accepted planning practice. One might speculate that had such a process been seriously undertaken, the recognition of divergent objectives might have occurred much earlier than it in fact did and even might have endangered the BART project.

Much of the recent literature that is highly critical of the dominant role of the business elite fails to recognize the wide degree of comparability that existed during the 1950's between the goals of the prime movers and those of many other interested groups. To a large extent the criticism of the role of business leaders during that period reflects the tremendous change in public values that has occurred over the last 20 years.

The urban planning team associated with PBHM worked closely with local planners throughout the

Bay Area in developing a regional land development plan that formed a primary basis for the BART system plan. This process went a long way toward ensuring that the transit plan reflected community goals and objectives of that time. In fact it was an exemplary effort—even by contemporary planning standards—in terms of the manner in which the transit plan was shaped by community land use planning objectives that had been defined as part of a regional transit planning process. BART planning was far ahead of its time in the integration of regional land development planning and transit planning, at least during the system planning process.

During the construction period, however, community land development objectives were given less and less attention as delays and inflation began to endanger the financial program. Midway through the implementation period this situation deteriorated to frequent outright conflict between community land development objectives and BARTD, as has been discussed in detail in the history section.

As discussed in the public involvement section, the treatment of goals and objectives was exemplary in some of the recent BART extension studies, particularly the Geary Street study in San Francisco. By this time lessons learned during initial system planning and the more recent construction period led the planners to go into far greater depth in defining objectives and criteria and applying them in the evaluation process than ordinarily has occurred in transit planning.

Development and Evaluation of Alternatives

Basically BART system planning did not involve the development and evaluation of alternatives. However, it is not appropriate to be critical of BARTD and its promoters for failing to study alternatives, as many current writers have been. They were not violating planning standards accepted at the time.

In the 1950's regional planning usually was conceived of as a process of designing a desired solution. It was not until the early 1960's that several major regional planning programs began to consider land use and transportation alternatives in their work programs (for example, the Penn Jersey Transportation Study, the Southeastern Wisconsin Regional Planning Program, and the Puget Sound Regional Transportation Study).

Nor is it likely that the outcome of the planning process would have been very different had there been a systematic, thorough investigation of alternatives. As discussed in detail in the history section, a widespread consensus on BART developed among all interests who were involved; the actual system that evolved was almost a direct result of the regional land use plan that was developed in close cooperation with local planning staffs by the urban planners who were part of the PBHM team.

One basic alternative that obviously was available was the use of the Bay Bridge (which still had tracks at the time) instead of the subaqueous tube. The 1956 PBHM report did devote some attention to this but in a biased manner. The recommended plan was termed the "optimal" alternative throughout the document. Great weight was given to the several minutes of travel time savings that it would provide and the fact that the tube could readily be linked to a Market Street subway. However, despite the great additional cost of the "optimal" plan, no economic evaluation was reported to justify the added investment.

Although the legislature had asked the BART Commission to examine the economic justification for a rapid transit system, no such evaluation apparently was performed during the master planning period. The only comment on economic justification in the 1956 PBHM report is the statement that it is doubtful the Bay Area could afford not to build the proposed rapid transit system,

However, following the master planning period and prior to the bond issue an assessment of the benefits of the proposed system was conducted by Ebasco Services.²⁸ The evaluation would be inadequate by current standards. Benefits are not related to costs at all despite the availability of cost estimates at the time. Perhaps this is because the system could not have been justified by the benefit values estimated if such a benefit-cost analysis had been conducted.

The total projected annual benefits were \$42 million. This level of benefit would justify an investment of only about half of BART's cost, based on the cost estimates available at that time and an

²⁸ **Rapid** Transit System Economic Review, Including a Technical Supplement for San Francisco Bay Area Rapid Transit District, Ebasco Services, Inc., June 1961.

interest rate of about 8 percent. The acceptable rate of return that would have been required to justify BART at its (then) estimated cost would have been about 4 percent. This is a value that was frequently used at that time in public works economic analyses, but nevertheless it was too low a rate to accept, even at that time. Expected returns on relevant types of investment in the private sector, which are the basic guide for benefit-cost studies, would have required the use of an interest rate on the order of 8 percent in 1961.

The estimates of time savings in the Ebasco study account for about three-fourths of the total estimated BART system benefits. These benefits probably were grossly overestimated in that time savings of 15 minutes were used for all movements through selected major gateways during the rush hours; these included not only all transit trips but also all automobile and truck trips.

These criticisms, however, ignore the fact that BART actually was justified to a large extent by land development objectives, which were not evaluated in the 1961 Ebasco study.

From the earliest period of BART planning, rail rapid transit technology had been assumed to be the only available, satisfactory technology. The 1947 Army-Navy Report made this assumption without recognizing the need to study alternatives. The 1951 legislation creating the BART Commission, however, was less clear. A "rapid transit plan" was to be developed; this term was defined to include "transportation of passengers by means of rail, monorail, or by similar means."

In spite of this implication that alternative technologies should be investigated, relatively little evaluation effort was devoted to the task. However, this criticism must be seen in the light of the lack of many of the newer systems that have since become available. The advantages of buses operating on grade-separated rights-of-way was not generally recognized at that time, although of course the technology was well known. The various types of automated guideway systems had not been developed. Nor had a design for a modern light rail system been developed, although such an option would have required far less research and development than did the actual BART technology that evolved subsequent to the basic system decision in 1956. A high-quality regional light rail system with extensive local coverage could have been a highly feasible and attractive option because of the existence of rights-of-way and tracks on

several lines in San Francisco, across the Bay Bridge, and in some locations in the East Bay.

Several of the available vehicle and guideway concepts were subjected to a rather nontechnical review, but the 1956 PBHM report gave most attention to a comparison of suspended versus supported train technologies. Basically the selection of a "conventional" duo-rail system was based on the highly definitive standards that were established for speed, capacity, headways, and other features. No known analysis was conducted of the tradeoffs that were possible between these standards and system costs.

Several alternative route alignments were evaluated in some of the corridors. During the system planning process, however, little of this work was published and most of it can be traced only through personal recollections and general descriptions of the factors that were considered.

As noted previously, the regional development scheme was the basic criterion. It dictated the need for direct high-speed service with few stops linking all of the cores of the older cities. This concept left relatively little room for alternative basic configurations. The nine-county master plan linked all important cities on as direct a route as possible.

The primary evaluation then focused on the definition of the first phase system that could be implemented within the existing constraint of financial feasibility, which had been fairly well defined by the legislature in 1953 when it placed a limit on bonding for BART of 15 percent of assessed value of the District. These constraints defined the terms of the basic evaluation that was conducted—a trade-off analysis between system extensiveness and costs within an approximately fixed total cost, depending on the number of counties included in the first phase. The more extensive the system, the more cities could be served initially and the greater the potential ridership, revenue, and public and political support BART could expect. Cost considerations, of course, dictated avoidance of subsurface routing insofar as possible, use of existing rail or projected freeway rights-of-way wherever feasible, and reduction in numbers of stations at less important subcenters. (The last criterion worked in favor of higher speed capability, which was a dominant consideration in attracting the auto user.)

After the master plan was adopted in 1957 and the BART District created, the engineering design

of the system in the 1959-62 period involved the further evaluation of alternative routes within a relatively fixed master plan. At this time there was some give and take between BARTD and individual cities in order to gain their support. During this process local land use considerations were introduced in several instances to modify alignments or change elevated routing to subway (part of the Berkeley subway agreement occurred then). The extent of this was limited, however, in part because of BARTD's cost limitation concerns and in part because BART's potential impacts were not perceived as real yet by local elected leaders.

Financing and Implementation

The experience in the San Francisco area regarding financing and implementation problems has perhaps had more influence on this study's findings in this subject area than any of the other case assessments. This is true primarily because it is the only one of the nine metropolitan areas which has been through the planning and construction period for an entire regional rapid transit system during the modern period covered by this assessment. In addition, the BART system represents an extreme example (along with the Washington, D.C. area) of a long-term commitment to a master plan for a major new regional rail rapid transit system. As an extreme example it is the source of several lessons for other areas regarding the problems that can come with such a commitment.

In stressing the problems that have arisen from the BART approach to implementation, one has the danger of losing sight of the positive aspects. The building of BART was an incredible achievement that will be matched by few other metropolitan areas, if any. Without any promise of Federal or State aid, the metropolitan area recognized that it had to make a firm and major long-term commitment if it was to achieve the objective of knitting together the several separated parts of the Bay Area with a new rapid transit system, given the high costs involved in overcoming the major natural barriers and achieving sufficient speed and other standards of quality for BART to substitute for highways as the backbone of the regional transportation system. The years of financial difficulty, disruption, and conflict exacerbated by the implementation approach chosen were justified in the eyes of many BART supporters. Many of the most knowledgeable local critics of BARTD's organization, management, and technical com-

petence acknowledge that the basic system planning and implementation decisions were wise in the context of the times.

The following discussion of BART financing is organized around subcategories that correspond to this study's guidelines for assessing transit financing: (1) achievement of national, regional and local goals; (2) stability and predictability of funding; (3) balance between long-range, regional, single-technology planning and short-term responsiveness to local needs; and (4) avoidance of unnecessary delays due to program administration at higher levels:

Financing and Implementation: Achievement of National, Regional, and Local Goals.—Several aspects of BART's history are peculiar with respect to national goals and hence of no great relevance for other areas. National defense considerations played a major role in defining the original need for a regional transit system, in outlining some of its physical configuration, and in stimulating serious planning efforts within the region. However, national goals had no influence after that during the system planning process because this planning took place before the beginnings of the Federal transit program in 1961.

On the other hand, Federal and State transportation policy had a major effect in stimulating BART in a negative sense: the insensitive approach to freeway planning and design in San Francisco in the early- and mid-1950's gave rise to vehement opposition to the program, which came to be nationally known as the "freeway revolt" and culminated in the withdrawal of half a dozen freeways from the city's master plan and the sacrifice of tens of millions of dollars of State and Federal money in the late 1950's. This was a major factor not only in generating public support for BART but also in shaping the objectives used in the BART planning process—i.e., the emphasis on providing a high-speed, long-distance alternative to freeways and bridges.

The San Francisco area took on a major responsibility which should have been a national objective; research and development of new technology. Most of the financial burden and all of the management burden for this fell on BARTD. Only a relatively small percentage of the cost of this was borne by the Federal research and development program. It is universally agreed that it was a



Public opposition to new urban highways bolstered support for BART. The halt to construction of San Francisco's Embarcadero Freeway in the 1960's led the city's—and the nation's—"freeway revolt."

mistake in retrospect to have relied so extensively on technological development within the framework of a specific transit development project.

Regional goals dominated over national, State and local goals in the BART implementation program to a greater degree than maybe permitted elsewhere in the foreseeable future. A regional organization with a clear mandate to build a regional system was provided in 1962 with guaranteed financing of a billion dollars. No mechanism for State oversight of the program was established, despite the fact that BART had been created and financed entirely through State legislative initiative. No legislative review of the program took place for about 4 years, until after it was in serious financial trouble.

Local goals played a significant, if secondary, role in system planning; however, in the implementation program the opportunity for local goals to influence BART was minimized by the nature of the implementation program—not perhaps intentionally, but effectively. The public was not granted the right to public hearings; they could be achieved only by special request of local governments. No funds or provisions were provided in the program

for planning, design, or construction of local community facilities that inevitably were going to be required or desired in conjunction with the planning, design, and construction of BART. There seems to have been no recognition of the opportunities BART would provide for coordinated development of station areas during system construction and the time test would be required to take advantage of the opportunities.

The most negative aspect of the financing program from the standpoint of local goals was its inflexibility. This inflexibility almost inevitably led to conflict as a system of fixed dimensions was constructed over a several-year period of changing community values. This propensity for conflict was compounded by some of the optimistic assumptions built into the financing program: for example, the use of a 3 percent per annum inflation estimate and a 10 percent contingency cushion (a particularly low value in a project involving substantial technological development and the need for agreements with so many local governments). Construction was programed to take about half the dozen years that it eventually took to complete the system. At that, there is evidence that the program was forced to completion more than it would have

been—decisions were made to proceed with various construction and operation activities before they should have because of time pressures.

Financing and Implementation: Stability and Predictability of Funding.—Stable, predictable funding is one of the most fundamental requirements for sound planning. The BART financing program did appear to provide stability at the outset and therefore was able to give BARTD the momentum it needed.

However, financing stability was undermined by the absence of a mechanism for revising the financing plan to take account of changing circumstances. The BART plan contained no provision for staging construction to allow putting the most important parts of the system into operation ahead of lower priority portions in case rising costs made it impossible to complete the entire system on schedule. No source of additional or continuing revenue was identified to complete the system as defined or to cover costs of additions or changes. Partly as a consequence of these failings, BARTD took over 3 years and wasted much effort to provide the additional financing necessary to cover a projected \$150 million cost overrun that came to light in 1965.

Federal funds ultimately made up about half of the total cost overrun of BART. It appears that UMTA did attempt to provide some promise of multiyear financing within the limitations of the Federal program. However, the lack of certainty regarding the amount and timing of these funds did not help. The California Legislature did not want to commit itself to the provision of additional regional taxes to cover any costs that might potentially come from UMTA. By not committing funds itself it was placing maximum pressure on UMTA to bail out BARTD. Such gamesmanship over financing can be costly and can be avoided only through the provision of more predictable funding at both the State and Federal levels.

Financing and Implementation: Long-Range, Regional, Single Technology Planning Versus Short-Term Responsiveness to Local Needs.—BART demonstrates that desirable financing arrangements should provide balance between local and regional transit needs and should avoid commitment to a single-technology regional system when different technologies may be more appropriate in different corridors.

BARTD was formed as a separate organization to take on responsibility for the new regional system. It was given no responsibilities for existing local transit services nor for the provision of new local short-haul transit services where such services were needed. This limitation inevitably set up a conflict between the two types of needs that have been more sharply drawn in the San Francisco area than elsewhere. The conflict was heightened because of the high level of tax commitment that had already been made to the Muni and AC Transit systems and the fact that all of the BART system financing obligation was assumed at the start by metropolitan area residents. San Francisco residents are subsidizing all forms of transit at the rate of well over \$100 per capita per year, the highest in the country.

The BART master planning for the original nine-county area is one of the most prominent examples of overemphasis on a single-technology system throughout a region. The master plan called for extension of these costly rail rapid transit lines, basically designed for high-capacity, high-density urban corridors, many miles beyond the boundaries of existing urban development to small centers such as Santa Rosa, Petaluma, Vallejo, and Napa. At no time during the system planning process did planning appear to give serious consideration to using different modes within different corridors or to finding ways in which some of the existing transportation facilities in particular corridors could be upgraded, extended, or otherwise improved to form a better-integrated system.

In retrospect the need for such analysis is obvious because of the existence of the Southern Pacific commuter rail operation, the very successful Golden Gate express bus system, the popular and successful rebirth of the Marin County commuter ferry operation, and the existence of the streetcar tracks, tunnels and separate rights-of-way in San Francisco.

Financing and Implementation: Avoidance of Delays Due to Program Administration at Higher Levels.—The BART planning process never encountered serious delays such as have been alleged in other metropolitan areas due to indecision or policy redirection by UMTA. However, BART officials do complain about significant delays that have been unnecessarily caused by UMTA in some of the extension studies. The basic problem seems to be that the present UMTA financing mechanism requires all contract matters, including even minor

contract amendments, to be approved in Washington, BART has felt it necessary to absorb the loss of significant Federal funds rather than wait several months for such approvals.

At the State level BART has felt some frustration in dealing with the Legislative Analyst's Office while it performed reviews of BARTD's management. However, these reviews appear to have been

warranted to provide the basis for consideration of new legislation to solve BARTD's financing problems. The delays potentially could have been avoided if there had been a continuing regular legislative review of the BARTD program, rather than an involvement only at the time of crisis. A well-managed legislative review might well have been able to have anticipated some of the management and financing problems before they became crises.