

nated project manager. It is intended that the facility be operated by RTD, an existing transit operator.

This arrangement appears to be working well. There has been little or no friction between the members of the board, an absolute minimum of red tape and bureaucracy has been built up as part of the joint powers agency, and the technical work is proceeding smoothly on an expedited schedule.

The Guadalupe project in San Jose is more complex than either the San Diego or Sacramento projects, both in terms of the project and the organizational structure to conduct it. Since the preliminary engineering and final EIS stages are just getting under way, it is too early to draw any conclusions about how successful the structure will be.

The project involves both a state highway and a light rail line in the same right-of-way, which is new right-of-way, not one currently in rail or highway use. The project is thus more complex and much more expensive than either the San Diego or the Sacramento project. The San Jose project is the only project of the three that is relying on UMTA Section 3 funding.

There is no MTDB-type legislation setting out an organizational framework for the development and operation of the project, but the development of the project is to be carried out within a framework established by a joint powers agreement between state and local government. The agreement sets up a policy board, a technical committee, a project manager, and a deputy project manager. It is intended that the staffs of all involved public entities, as well as consultants, will participate in the actual technical work.

The partnership between state and local government in the light rail area has not been financially equal in California. Local contributions have been minimal, and the state has agreed either to pick up almost the entire project cost or provide almost the entire match, if federal funds are involved. This situation will have to change in the future; it is unrealistic to expect that either federal or state funds will be available in the amounts being sought.

Thus, the question of local funding is the key element

in the overall funding issue. We should clearly be looking for more financial support from the local level. One very obvious way to generate more local funding in this state would be to take advantage of the provisions of Proposition 5 as they apply to gas tax revenues subvented to local jurisdictions. There is probably no better time than now. The state law increased the local and state gas tax bases just last year.

According to our estimates, if local governments in Proposition 5 counties were to give transit 25 percent of their increases in gas tax revenues over the next 5 years, they would be boosting guideway funding by \$120 million. However, the California Transportation Commission, which adopts a 5-year spending plan for state highway and some transit work, has before it a recommendation from their staff that our proposed level of Proposition 5 funding be reduced to free up more money for highway projects.

Simultaneous with this battle is the issue over a new bill—SB 1335—that would change the local share of SB 620 funds, our second source of funding for guideway projects. Under current law, after certain state overhead costs are deducted, SB 620 funds are split equally between local assistance and the remaining project categories—including guideways. Under SB 1335—which is in part a response to federal transit cuts—the local assistance share would be increased to 60 percent at the expense of the remaining transit categories, whose share would drop to 40 percent. This represents an attempt to solve a funding problem through the cannibalization of one element of transit by another. The transit community should take a page out of the book of the roadbuilding community and work on a united basis to ensure adequate overall funding.

We in California can be proud of what we have accomplished in the last few years with regard to light rail. This would not have been possible without state interest and state funding. But if we are going to sustain the level of effort we now have under way, we will need a local, as well as a state, funding commitment. With state and local government working together, there is no limit to what we can accomplish.

Potential for Light Rail Transit: Local Perspective

**RON DIRIDON, Transit District Board of Supervisors,
Santa Clara County**

The advantages of light rail transit are needed now. The Santa Clara County transit experience dramatizes that point.

Santa Clara County is Silicon Valley: 1.3 million people—more than twice the population of 20 years ago. In 1975, there were 506 000 jobs in our valley; today there are more than 700 000 jobs, and 840 000 are conservatively projected for 1990. That is a 170 percent increase in our 1975 employment base, and we have had no significant highway expansion. You can imagine the massive commuter congestion.

Our transit agency began in 1974; it now has 650 buses carrying more than 130 000 trips per day. Our rate of increase continues to average over 13 percent compounded, making us the fastest growing major property in the country. But we have not scratched the surface of the transit need yet, and we cannot afford the operating cost to meet that need in buses only. So we began to solve the problem. In 1973, with UMTA's help, we conducted the first of four federally required studies.

Our Phase One Rapid Transit Development Project was a general concept study that cost \$200 000 and 2 years of time. The results indicated a need for 140 miles of

medium capacity transit—light rail—for our interurban link with a bus feeder and distribution system. That local system would feed into the Southern Pacific San Francisco Peninsula commute and BART heavy rail systems for regional trips. It sounded good; we wanted to build it then, in 1975.

Instead of going to the federally required Systems Level Alternative Evaluation Study, we tried to short cut, like San Diego, and lead into preliminary engineering. So we conducted, without UMTA's help, the Santa Clara County Light Rail Feasibility Study at a cost of \$200 000 and 2 more years. The results confirmed the concept study and recommended a 15- to 20-mile light rail starter segment in our main north/south Guadalupe Corridor to interconnect the densest neighborhoods with our city center and heaviest industrial concentrations. The study, which would have cost \$86 million in 1976, was rejected by UMTA because we had not conformed to their process. So we went on to the next federally required study.

In 1977, the Santa Clara County Joint Corridor Study, our Systems Level Alternative Analysis, was begun. The cost was more than \$2 million and 2.5 more years. After studying 13 alternatives in 5 corridors, the results con-

firmed our original study: light rail in the Guadalupe Corridor. But now the project cost was up to \$130 million.

Then we had the pleasure of beginning the Guadalupe Corridor Study, our Project Level Alternative Analysis, and Draft Environmental Impact Statement. The cost was another \$1.5 million and 2 more years. And we were not surprised to see light rail, with an adjacent expressway in some sectors, again recommended for our Guadalupe Corridor. But now the cost had increased to more than \$180 million for the rail portion of the project.

After 4 studies over 9 years, each confirming the prior findings, a cost of almost \$4 million, and construction costs that have more than doubled, we are ready to begin preliminary engineering and publication of a final EIS.

This is no marginal project:

- Less than \$10 million a mile total project cost.
- More than 42 000 riders per day expected to start.
- More than 5000 riders per hour in peak periods.
- More than 80 percent of the right-of-way in public ownership already.
- A two-directional payload paying 85 percent of the operating cost from the farebox.
- A virtually unanimous local consensus with an 85 percent popular vote in favor of the plan.

And we have just been advised by UMTA that we have been turned down on our request for a \$2 million preliminary engineering grant because we are a "new start." So, we are going ahead—with a promised federal letter of no prejudice—on our own, with state aid.

A joint powers agreement signed with the state on March 26 gives the state the expressway portion and our transit agency the light rail portion of the project. We are looking for added help from the California Transportation Commission and also considering various local financing options including assessment districts, revenue bonds, sale and lease-back of vehicles, and bank robbery if needed. Most important, we are going to build a light rail system in Santa Clara County—if we have to drive every spike ourselves.

As in many areas across the nation, we in Santa Clara County are ready to proceed with the interurban transit system of the 21st century—light rail. We have proved,

using the federal government's own criteria, that it is cost-effective and it will work. We have tremendous needs that, if left unmet, will jeopardize our economic and environmental viability in the near future. We have no choice. So what do we—what do you—need to do next?

- First, we must systematically and comprehensively spread the message of the virtues of light rail to the public. Let us reestablish the National Transit Advocacy Network that was effective in persuading the early Carter administration that adequate transit capital funding was essential to economic vitality. This group of transit representatives of the National Association of Counties, League of Cities, American Public Transit Association, AMTRAK, and others focused on subject areas of common agreement and was very effective in building the Section 3 capital funding to an acceptable level.
- Second, we must demand that transit, especially cost-effective light rail, be a major priority at the local, state, and especially the federal level.
- Third, we must insist that the federal red-tape studies be reduced to a single, combined alternative analysis, EIS, and preliminary engineering efforts that should lead to a speedy approval or disapproval by UMTA.
- Fourth, we must support the approval of transit capital grants based on cost-effectiveness and proven need, not on whether the system is a "new start."
- Fifth, we must take the risk to advocate for new transit funding sources while attempting to protect traditional allocations.

Most of all, we must retain a consensus and remain focused on the broad objective of promoting cost-effective light rail transit. We must not allow our efforts to be fractured into disastrous competition among transit agencies for inadequate and dwindling dollars. The American transit community must join together because the total system must have priority or our total economic system could fail.

Evolution of Light Rail in Europe Since 1977: Trends, Future Perspectives, and New Approaches

ANTOINE LOMBART, Transurb Consult Brussels

In the first half of this century trams had to carry the main burden of public passenger transport in most European cities and in many cities on other continents. The tram was an important part of urban transport, even in cities with over a million inhabitants where rapid transit systems (metropolitan and suburban railways) already existed.

The middle of the century saw the beginning of a structural transformation in transport characterized by a double shift: from public transport to private cars and within public transport from the tram to the motorbus. This trend first became apparent in the United States, where the number of tram passengers declined rapidly—e.g., from 7.3 to 0.6 billion passengers per year between 1935 and 1958. This process occurred about 20 years later in European cities.

The rapid increase in the number of cars greatly

impeded the operation of public transport and deprived the tramway of its most important basis: the provision of a punctual and regular service. The desire to own an automobile increased to the same extent that the attractiveness of the tram diminished. Although understandable at the time, the mood of euphoria that greeted the car, which was believed would solve the transport problem in towns and cities, often affected the decision to the disadvantage of the tram. More and more roads were built to give the car its due place. The old tramways interfered with the cars and were eliminated in many cities, where the infrastructure in the center or at the side of the road hindered parking and loading. The aim was to limit public transport to a few bus routes, and in the cities with over a million inhabitants to a metropolitan railway, for those of modest means.