



3 1223 03564 7883

MEMORANDUM

June 13, 1960

James R. McCarthy, Director of Planning

William A. Proctor, Senior City Planner

ANALYSIS OF PROPOSED BAY AREA RAPID TRANSIT SYSTEM OUTLINED
BY -- PARSONS BRINCKERHOFF-TUDOR-BECHTEL -- ON JUNE 6, 1960

City officials aware of the Transportation Technical Committee's pro-
for regional rapid transit routes in San Francisco may have been heartened
inclusion of Parsons Brinckerhoff-Tudor-Bechtel, in their May 2, 1960 report
proposed Bay Area rapid transit system, of the three routes recommended by the
Transportation Technical Committee in its Interim Report of February 1960
Final Report of May 1960.

a Rapid Transit District consulting team (Parsons, et al)
ore Line, the Twin Peaks Line and the Post-Geary-Marin
led by the T.T.C., except for the Leavenworth Seventh
e where they substituted a Ninth-Market routing. These
as "recommended" routes, but merely study routes sub-
rposes, but engineered to the degree necessary to insure
sure reliable construction cost estimates.

double-track system thus analyzed in the May 2 Report,
contingencies and inflation, came to approximately
e Trans-Bay Tube, (or about \$1,189,595,000 excluding it)

Directors, at their May 18 meeting, immediately reacted
explore ways and means by which the costs could be trimmed
the financial capabilities of the District.

part of the Parsons consulting team, they were able to trim
the following line curtailments or postponements:

back from Novato to a point near San Rafael;

(Saves \$10,999,000);

back from Downtown Richmond to Cutting Boulevard
(Saves \$27,124,000);

Contra Costa Line: Cut back from Concord to a point near Walnut Creek;
(Saves \$10,999,000);

Southern Alameda County Line: Cut back from Fremont to Hayward;
(Saves \$27,037,000);

Peninsula Line: Cut back from Mountain View to Redwood City;
(Saves \$45,712,000);

San Francisco: Postpone Twin Peaks Line, and elevate Marin Line on
Outer Geary Boulevard (Saves \$169,777,000);

San Fran

ment of City Planning

5/S

DOCUMENTS DEPT.

SAN FRANCISCO

PUBLIC LIBRARY

REFERENCE

BOOK

Borrowed from the Library

D

REF
388.4
P942m



3 1223 03564 7883

MEMORANDUM

June 13, 1960

TO: James R. McCarthy, Director of Planning

FROM: William A. Proctor, Senior City Planner

SUBJECT: ANALYSIS OF PROPOSED BAY AREA RAPID TRANSIT SYSTEM OUTLINED BY -- PARSONS BRINCKERHOFF-TUDOR-BECHTEL -- ON JUNE 6, 1960

City officials aware of the Transportation Technical Committee's proposals for regional rapid transit routes in San Francisco may have been heartened by the inclusion of Parsons Brinckerhoff-Tudor-Bechtel, in their May 2, 1960 report on a proposed Bay Area rapid transit system, of the three routes recommended by the city's Transportation Technical Committee in its Interim Report of February 1960 and its Final Report of May 1960.

Here, the Bay Area Rapid Transit District consulting team (Parsons, et al) had included the S. P. Bayshore Line, the Twin Peaks Line and the Post-Geary-Marin Line essentially as recommended by the T.T.C., except for the Leavenworth Seventh routing of the Peninsula Line where they substituted a Ninth-Market routing. These routings were not identified as "recommended" routes, but merely study routes submitted for cost estimating purposes, but engineered to the degree necessary to insure an operable system and to insure reliable construction cost estimates.

For the 133-mile double-track system thus analyzed in the May 2 Report, the total bill, including contingencies and inflation, came to approximately \$1,326,886,000, including the Trans-Bay Tube, (or about \$1,189,695,000 excluding it).

The BARTD Board of Directors, at their May 18 meeting, immediately reacted by asking the consultants to explore ways and means by which the costs could be trimmed to bring total costs within the financial capabilities of the District.

In the June 6 Report of the Parsons consulting team, they were able to trim off about \$298,727,000 by the following line curtailments or postponements:

Marin Line: Cut back from Novato to a point near San Rafael;
(Saves \$11,078,000);

Richmond Line: Cut back from Downtown Richmond to Cutting Boulevard in El Cerrito; (Saves \$27,124,000);

Contra Costa Line: Cut back from Concord to a point near Walnut Creek;
(Saves \$10,999,000);

Southern Alameda County Line: Cut back from Fremont to Hayward;
(Saves \$27,037,000);

Peninsula Line: Cut back from Mountain View to Redwood City;
(Saves \$45,712,000);

San Francisco: Postpone Twin Peaks Line, and elevate Marin Line on Outer Geary Boulevard (Saves \$169,777,000);

D REF 388.4 P942m

Proctor, William A.

Memorandum to James R.
McCarthy [re] Analysis
1960]

3 1223 03564 7883

BARTD Consultants Recommendations for Lines in San Francisco

In the written June 6 Report, no recommendation is made as between two alternative networks:

1. Bayshore System:

- (a) Marin Line as in May 2 Report, but elevated from Spruce Street to the Presidio;
- (b) S. P. Bayshore Line as in May 2 Report;
- (c) Double Deck Subway under Market Street, from 9th to 1st Streets, with upper level (built at District expense) to be turned over to the Muni RR for semi-rapid transit service for tunnel street car lines;
- (d) Twin Peaks Line to be built in second stage (to be started in 1970);
- (e) Net savings over May 2 system \$169,777,000.

2. Mission System:

- (a) Marin Line as in the May 2 Report, except elevated from Spruce Street to the Presidio;
- (b) Peninsula Line to follow Mission Line alignment recommended in the T.T.C report (with alternative between an elevated on Alcañany Boulevard and surface line on Southern Freeway center mall dependent on possibility of negotiating the latter with the State Highway Commission;; initial stations to be at Daly City, Ocean Avenue and 22nd Street, with line built so that local stations could be added in second phase (to be started by 1970);
- (c) Double Deck Subway under Market Street from 9th to 1st Streets with upper level (to be built at District expense) to be utilized for Muni RR tunnel street-cars;
- (d) S. P. Bayshore Route from San Bruno to Market Street (as in May 2 Report) to be built in second phase (possibly when Peninsula Line is extended into Santa Clara County); then the Mission Line would become more of a local line;
- (e) Net savings over May 2 system \$114,535,000 since Mission would cost \$22,135,000 more than Bayshore Line.

In their presentation at the June 6 meeting of the BARTD Board of Directors the Parsons team verbally recommended the Mission Line System choice for these reasons:

- 1. It would give rapid transit service to Daly City and to the Outer Mission and Inner Mission Districts, which the Bayshore Line would not give;
- 2. The Bayshore Line was sure to be built in the second phase (where, if Bayshore were built first, Twin Peaks would be second, and Mission maybe never);

Actually, individual members of the Parsons consultant team indicated informally (after the meeting) that it was a hard choice, since the Bayshore Line would be \$22,135,000 cheaper than the MISSION Line, and since travel time on the Bayshore from Peninsula points would be three minutes less than on the Mission Line. Also San Mateo County BARTD Directors, county officials and city officials are known to be highly partisan towards the Bayshore Line as opposed to the Mission Line for through Peninsula trains.

A Realistic Appraisal of the Mission-Peninsula System "Package" for San Francisco

Before we in the city reject out of the hand the BARTD consultant team recommendation for the Mission Line System, we should take into account the following factors:

1. Considerable Rapid Transit Service for San Franciscans Would be Involved:

Tangible benefits for San Franciscans would include:

- (a) Semi-Rapid Transit on downtown Market Street for the Street-cars at the expense of the District, giving improved service to Buena Vista, Sunset, and West-of-Twin Peaks Districts;
- (b) Rapid Transit service for residents of the Mission District, the Outer Mission and Daly City;
- (c) Rapid Transit Service for residents of the Western Addition, the Inner Richmond and the Outer Richmond Districts.

2. The Mission Line Proposal is a Different "Package" than that contained in the Parsons Brinckerhoff 1956 Report:

(The 1956 Mission-Peninsula Line was essentially an interurban line with a frank admission by the consultants that there would be a little chance for San Franciscans to "get aboard", since trains would be filled to capacity in peak hours with Peninsula commuters.

With the aid of Donald Hyde of the Cleveland Transit System, the consultants have now worked out an "express and local" system that would work like this:

"A"-Trains would operate as locals to Daly City where they would be reversed for trips downtown, also making stops at Ocean Avenue and 22nd Street;

"B"-Trains would operate non-stop to Daly City, turning around at San Mateo;

"C"-Trains would operate non-stop to San Mateo, continuing to the Redwood City terminus.

The effect of this system is to insure one-third of the line capacity during peak hours for San Francisco and Daly City passengers. It would be an automatic means of preventing the overcrowding of the trains that had filled up down the line (inbound) and would prevent half-empty trains having to continue to the end of the line southbound. On a 90-second headway, this would mean that every $4\frac{1}{2}$ minutes a San Franciscan at Ocean Avenue or 22nd Street could get on a train with a good chance of getting a seat.

(A similar system is contemplated for the Marin Line, with "locals" making all stops between Market and 12th Avenue, and "expresses" skipping all stops between Union Square and 12th Avenue. Again this would insure half the capacity of the line for San Franciscans).

The "expresses" would not overtake the "locals" or go any faster than them. The expresses would loaf along at a constant speed of about 40-45 m.p.h. while the locals were shooting up to 80 and coming to stops. The advantage would be solely to insure space on the trains for the close-in commuters.

Passengers on the expresses wanting to get off at a by-passed station would have to transfer (involving a 1-1½ to 3-minute wait) at the "junction" -- such as Daly City, 12th Avenue, or San Mateo. This system probably would not be needed except during peak hours.

Curtailment of the Peninsula Line at Redwood City, cutting off many thousands of Santa Clara commuters helps provide train capacity for San Franciscans on the Mission-Peninsula Line. The Bayshore Line would be built when the line extended south towards (or to) San Jose, thus increasing loads.

3. The Street-Car Subway Idea May Have Merit

This idea has had several supporters on the Transportation Technical Committee throughout its deliberations. The consultants claim that the 1st Street to 9th Street (or Van Ness) subway would cut six minutes from present carline running times. It is my guess that this is scheduled off-peak running times and that possibly 15 minutes from peak hour times (from Montgomery and Market) might be saved.

This would probably necessitate changes between Van Ness and Castro. I have favored studying the possibility of converting Market Street into an Expressway (as is shown on our current Trafficways Plan) by adding grade separations at Castro, Church, Duboce and Gough Streets which would include the car-tracks as part of the grade separations. This might cost about \$10,000,000, much of which could come from the city's local allocation of gas-tax funds for its major street system. I believe that this would provide service almost as fast as full rapid transit trains, particularly if the street cars were operated in trains.

The lack of transfers needed for patrons of "J" "N" "L" and "K" carlines (which would be necessary for a full rapid transit Twin Peaks Line) might make this system quicker and more convenient for many Sunset and West-of-Twin Peaks residents than the alternative system of feeder bus lines and rapid transit trains.

4. Double-Deck Market Street Subway May Have Merit

This is another idea that has had the support of a convinced minority on the T.T.C.

The Seventh Street-Leavenworth-Post Loop proposed in the T.T.C. report for the Peninsula Line involves joint use of a double track line on Post Street from Taylor Street to Market Street by both the Peninsula Line and the Post-Geary-Marin Line. With three-minute headways on each line, the combined headways would be 90 seconds. Little or no capacity for additional patronage is involved and this would

915, 116,000

be betting considerable millions of dollars on the assumption that Downtown San Francisco will not expand much in the future. It is my belief that this cannot be counted on and that this would be a potential bottleneck.

Disinterested economists predict that the present San Francisco employment increase of about 3750 new jobs per year will continue, adding about 60,000 to 80,000 new employees in San Francisco by 1980, most of whom will be within walking distance of Market Street.

Since Post Street is too narrow for a four-track facility, single or double deck, it would not seem wise to break the bottleneck by double-decking the stretch from Taylor to Market on Post Street.

Expansion potential of land bordering Market Street is much greater than in the Union Square district, and thus, concentration of arrivals on, Market Street would seem to have the advantage, of stimulating new downtown development to a greater extent than on Post Street.

The double-deck design for the 4-track subway also would seem to overcome objections that a four-track subway would involve twice the interference with surface traffic as would a two-track subway. Neighboring structures would not be disturbed by the double-decked structure to as great an extent as would a single-level four track subway.

Differences in Cost Estimates

Considerable difference seems to exist in our engineers' estimates of construction costs as compared with the Parsons teams estimates -- oftentimes for essentially the same time. I would suggest that our engineers sit down in a confidential informal friendly meeting with the BARTD engineers and compare notes on unit costs, design comparisons, costs of electrical facilities, costs of automation and signaling, and estimates for inflation and contingencies so that we would all know what was being discussed. Then we could get a pretty good idea of where differences arose from differing assumptions, or where they represented real differences of designs or standards.

Otherwise, we may get our non-technical elective city officials, and the public, hopelessly confused.

Liaison Committee

Before we get too far off from what the District is discussing, we should encourage the immediate formation of our County Rapid Transit Liaison Committee as authorized in a resolution passed by the BARTD Board of Directors on June 6. This committee would consist of the BARTD Board of Directors members from San Francisco, the Mayor, some Supervisors, possibly members of the Transportation Council, and representatives of civic organizations (Chamber of Commerce, Central Council of Improvements Clubs?).

Here the diverse viewpoints that may have arisen in the past might have a chance of being reconciled by friendly informal, frank discussion.



