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SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

Metro Rail Project

IMPACT OF METRO RAIL CONSTRUCTION
ALONG HOLLYWOOD BOULEVARD

April 1989

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IMPACT OF METRO RAIL CONSTRUCTION ALONG HOLLYWOOD BOULEVARD

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IMPACT OF METRO RAIL CONSTRUCTION ALONG HOLLYWOOD BOULEVARD

INTRODUCTION

The Southern California Rapid Transit District requested that a review of the proposed construction and its impacts along Hollywood Boulevard be made by MRTC. This study identifies the short- and long-term effects to the area if the construction is completed to Hollywood/Vine Station as part of OS-2, or if the entire construction throughout Hollywood Boulevard is done as a single phase.

BACKGROUND

Three passenger stations are proposed for construction on Hollywood Boulevard. Each station is about 560 feet long. In addition, a Pocket Track structure of more than 1000 feet is planned adjacent to and west of the Hollywood/Vine Station.

↳ now east of

All of these structures are to be constructed using cut-and-cover methods, which will create considerable disruption both in the areas of these structures and several hundred feet beyond the stations at either end of the actual construction.

A separate study analyzing the positions of the Pocket Track and SCRTD's pending decision on its location is not considered in

this review except for Exhibit D, which includes the option of the Pocket Track east of Hollywood/Vine for purposes of OS-2 and OS-3 program cost estimate comparisons.

CUT-AND-COVER CONSTRUCTION

The proposed construction is sequential and begins with relocating certain existing utilities outside the construction area. The excavation support system is constructed along one side of Hollywood Boulevard and closes two lanes of traffic. When one side of the support system is complete, the two opposite lanes will be closed for installing the support system on the other side. In each case, street parking is prohibited and traffic is detoured to the side of the street opposite the construction area. Available traffic lanes are diminished to one lane in each direction through the cut-and-cover areas. Sidewalks will be usable during construction but diminished in width, restricting direct access to many walk-in businesses adjacent to the construction site. This may have a considerable effect on those businesses that rely on passersby for their trade.

(
-
What
does this
mean?

Where there is no alley or back door access, merchandise deliveries must be made from the nearest side street or at off-peak hours. (Many cities already have these restrictions as a means of improving traffic flow in the urban center. This is not the case in Hollywood, however, and this temporary restriction during

construction would be considered a disruption to everyday business activities.)

LENGTH OF MAJOR IMPACTS

Periodic disruptions would occur to the businesses during the construction of the station and Pocket Track structures. The total construction time is from about 3 to 3-1/2 years; however, the extent of the disruption varies and is determined by the particular construction activity taking place, as shown in Exhibit B.

Generally it takes from 10 to 12 months to install the support of the excavation system for a station and completely deck the excavation area. The surface disruption impacts are then reduced, and will be affected only by the contractors using parts of the decked area for construction operations and shifting traffic to different lanes. During this time, the sidewalks remain narrowed and protected by temporary fences or barricades.

At the completion of the cut-and-cover construction, the reverse of the above procedure takes place: partial decking is removed for backfill operations and utility reconstruction as the street is progressively replaced. The entire restoration operation for each station site is expected to take from 4 to 6 months.

CONSTRUCTION SEQUENCE & SCHEDULE

The District has planned to start construction at the Hollywood/Western Station on or about April 1994; at the Hollywood/Vine Station, including the pocket track, on or about January 1994; and at the Hollywood/Highland segment about 10 months later.

Construction summary schedules were developed using the Revision 6D Notice-to-Proceed dates as a basis of the contract-to-contract relationship. The periods of maximum street impact for Contract B271 and B281 are overlapping but far enough removed (3/4 mile) so as not to cause any compounding construction impacts.

Hollywood/Vine Station and Pocket Track construction is shown to commence 10 months ahead of the construction of Hollywood/Highland Station, which should minimize the adjacent surface disruption impacts.

It is important to secure property adjacent to the Hollywood/Western, Hollywood/Vine, and Hollywood/Highland sites to permit ingress and egress activities to occur off-street for the line tunneling. In this study we have assumed that all major tunneling surface activities will be from a shaft and adit located on private space adjacent to Hollywood Boulevard. (MRTC is cur-

rently assessing potential private space sites that can be purchased or leased by RTD for construction staging areas.)

TUNNELING WORK BETWEEN STATIONS

Tunneling between these stations would be concurrent with the station construction and would emanate from the Hollywood/Western and Hollywood/Highland area, but off-street. This would add to the congestion in this area because of hauling away the muck from the tunnel construction, as well as the importing of materials needed to construct the tunnels. (A current review of the station and tunnel work site requirements and schedule logistics, as well as the possible shift of OS-2/OS-3 limits, is in progress.)

POCKET TRACK LOCATION

The disruption to Vine Street would vary, depending on the selected location for the Pocket Track. A Pocket Track located east of the station would not impact Vine but would have some impact on Gower Street, which is a lower-volume street. If the pocket track is located west of the station, Vine Street would be greatly impacted.

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IMPACTS ON THE SMALL BUSINESS COMMUNITY

Businesses adjacent to this construction, specifically those depending on walk-in traffic for their business, would suffer some negative impacts. In other U.S. cities where subway construction has taken place, it has been shown that these small businesses suffer great financial hardship. The best mitigation for this impact is to minimize the time required to do the construction. Reducing the overall time may require nighttime and weekend work, and less restrictions to permit the Contractor more latitude in his operations. In addition, there should be good public relations and communications with the people in the small business community so as to minimize surprises and allow them to fully understand the construction activities that directly and individually affect them.

At the start of the Hollywood/Highland Station construction, Highland Avenue would be impacted and those properties adjacent to the cut-and-cover station would suffer the disruption of normal everyday business. The other areas, now restored, would be back to business as usual.

Whether these three stations are constructed simultaneously or at staggered times, the disruption to the businesses adjacent to each station will be the same.

IMPACTS TO TRAFFIC

During our report preparation for the Pocket Track, the Los Angeles Department of Transportation (LADOT) noted that it would prefer that Metro Rail construction not impact more than one major cross street (Highland, Vine, or Western) at any time. Other City departments would rather bite the bullet and deal with the disruption over the shortest possible time.

Assuming that Phase II (OS-2) would build to Hollywood/Vine Station, including the Pocket Track, the next phase (OS-3) would include the line to Hollywood/Highland Station, the station itself, and the earth tunnel line toward Universal City. The disruption along Hollywood Boulevard then would be initially limited to the two cut-and-cover locations. Since the Western Station is east of Western Avenue, that street would not be directly be affected. Depending on the location of the pocket track, Vine or Gower would be the only cross street impacted.

COORDINATION OF ADJACENT WORK

Timing is of great importance as the City Redevelopment Agency (CRA) is working with developers who are planning a large development adjacent to the Hollywood/Highland Station. It is thought that if the construction of this development and of Metro Rail took place at the same time rather than separately, the

disruption to the area would be about the same but the time period would be shorter.

With sufficient stagger in Notice-to-Proceed dates, simultaneous construction of all elements within Hollywood Boulevard would not increase the impact at each location. Therefore, it would be much better not to delay by building a portion later, but instead to decrease the overall length of time that disruption to business activity within the Hollywood community takes place.

SUMMARY

Once in operation, the Metro Rail rapid transit system will be a tremendous catalyst for improved mobility and growth in the Hollywood Boulevard corridor. The stations in particular provide growth opportunities for residential and commercial space development. Quick and safe accessibility to and from the rapid transit system allows for the reduction of future costly structured vehicular parking spaces by lessening public dependence on the automobile.

Public reliance on Metro Rail will continue to attract ridership as the system expands in the twenty-first century. In turn, the increase in the use of the transit system will generate further growth and neighborhood quality enhancement, as it has done in other cities such as Washington, Atlanta, and San Francisco.

Where this type of construction activity has taken place in a business district, experience has shown that the impacts are lessened when there is an understanding by all parties of the hardships to others during the period of construction. This can be mitigated by good public relations communicated on a regular basis during the construction period among the Rapid Transit District, Construction Manager, Contractor, and businessmen.

The sensitive area for walk-in business along Hollywood Boulevard is west of Gower and includes both the Highland and Vine stations. The Walk of Fame is in this area and is a big generator of the tourist pedestrian traffic that provides the customers for the businesses adjacent to it. There might be some creative way of preserving the stars in the Walk of Fame to lure tourists during this 3- to 3-1/2-year construction period.

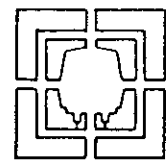
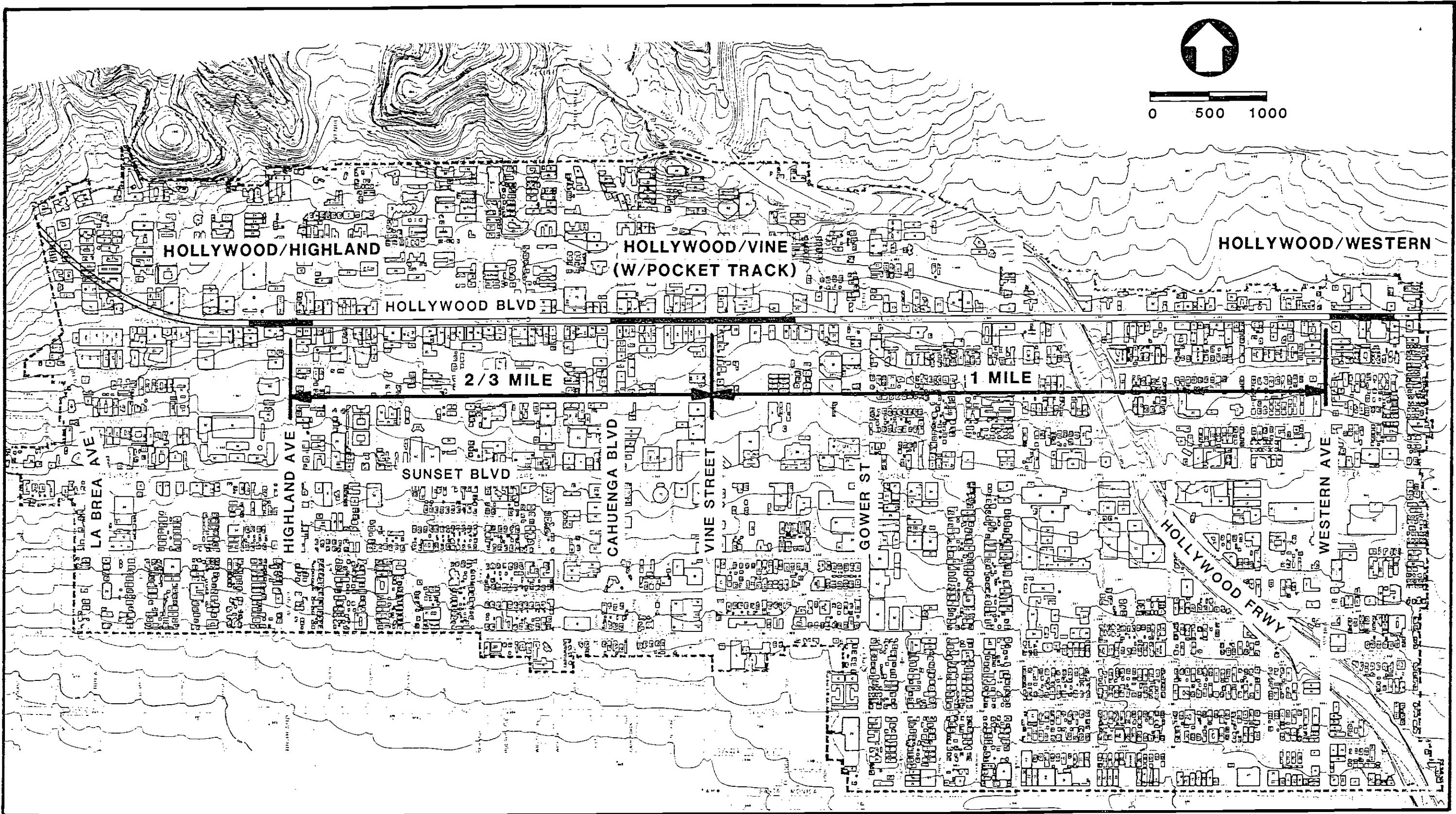
In summation, it appears that simultaneous construction of the three stations along Hollywood Boulevard has the least overall impact for the shortest period of time. It would appear that a lead time of 10 months for the Hollywood/Vine Station over Hollywood/Highland should permit enough stagger to minimize the compounding impacts of two adjacent cut-and-cover areas under construction simultaneously.

The attached map (Exhibit A) shows the three station locations and their relative distances from each other.

DWL/srt

EXHIBIT A

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EXHIBIT A

EXHIBIT B

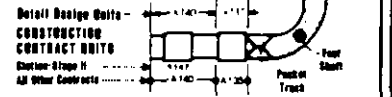
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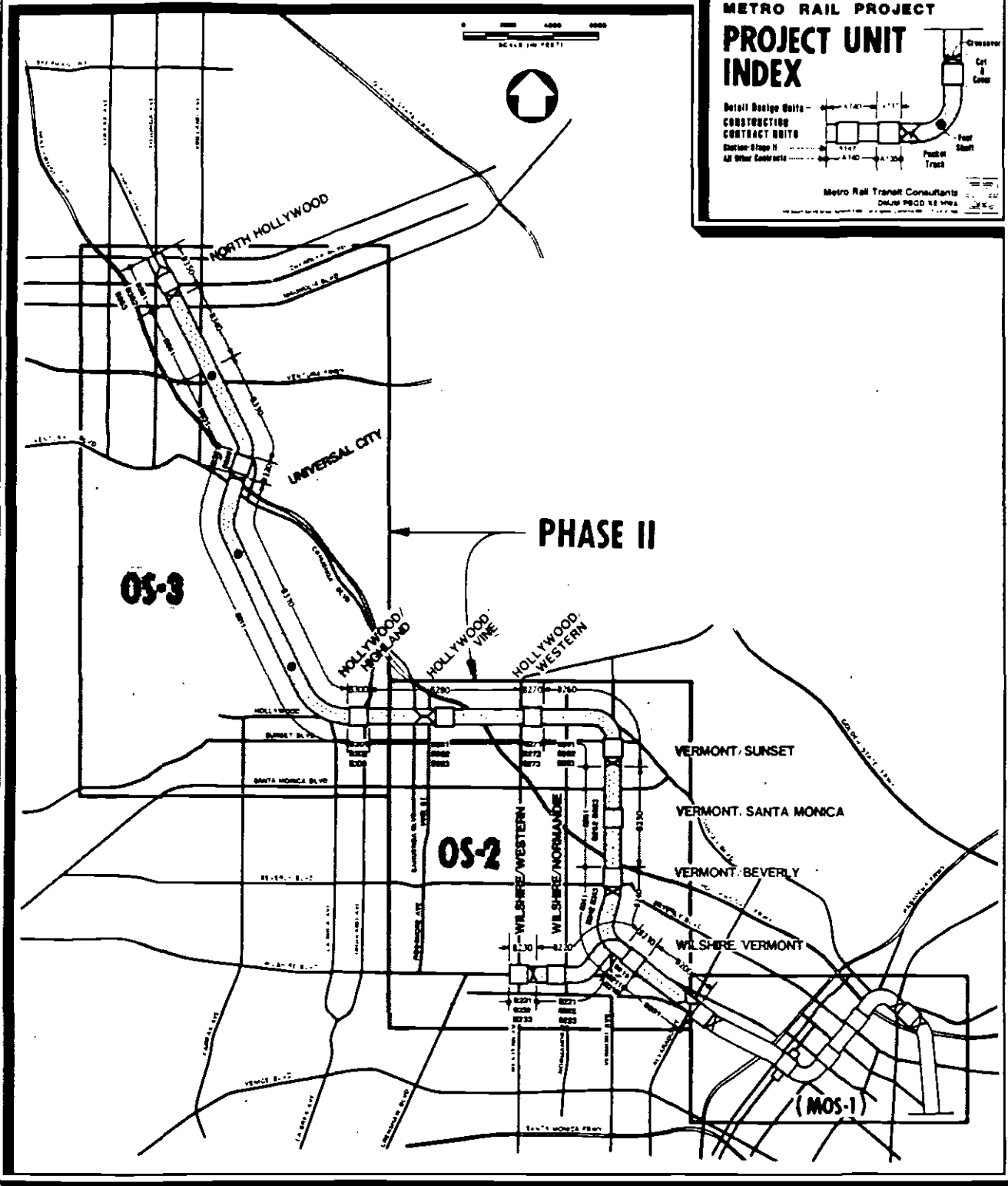


JULY 14, 1988
as adopted by
the SCRTD Board

METRO RAIL PROJECT PROJECT UNIT INDEX



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EXHIBIT D

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EXHIBIT D
METRO RAIL PROGRAM ESTIMATES

1. CAPITAL EXPENDITURES ON HOLLYWOOD BLVD. CORRIDOR
2. PHASE II - OS-2*, MODIFIED (POCKET TRACK EAST
OF H/V STATION)
3. PHASE II - OS-3**, MODIFIED
4. PHASE II - OS-2
5. PHASE II - OS-3

* Originally called MOS-2 in budget
** Originally called MOS-3 in budget

METRO RAIL CAPITAL EXPENDITURES
ON HOLLYWOOD BOULEVARD CORRIDOR

GENERAL

The District plans to commit \$300 million to \$350 million (December, 1985 dollars) to construction of the underground transit system along Hollywood Boulevard. This budget estimate includes:

- o 3 cut and cover stations.
- o 1 cut and cover Pocket Track structure.
- o Approximately 10,700 lineal feet of twin earth tunnels.
- o All other design, construction and administration costs.
- o Insurances cost and contingencies.

Summary details of the split of capital cost commitments for the two scenarios of the limits of OS-2 and OS-3 at Hollywood and Vine are shown below.

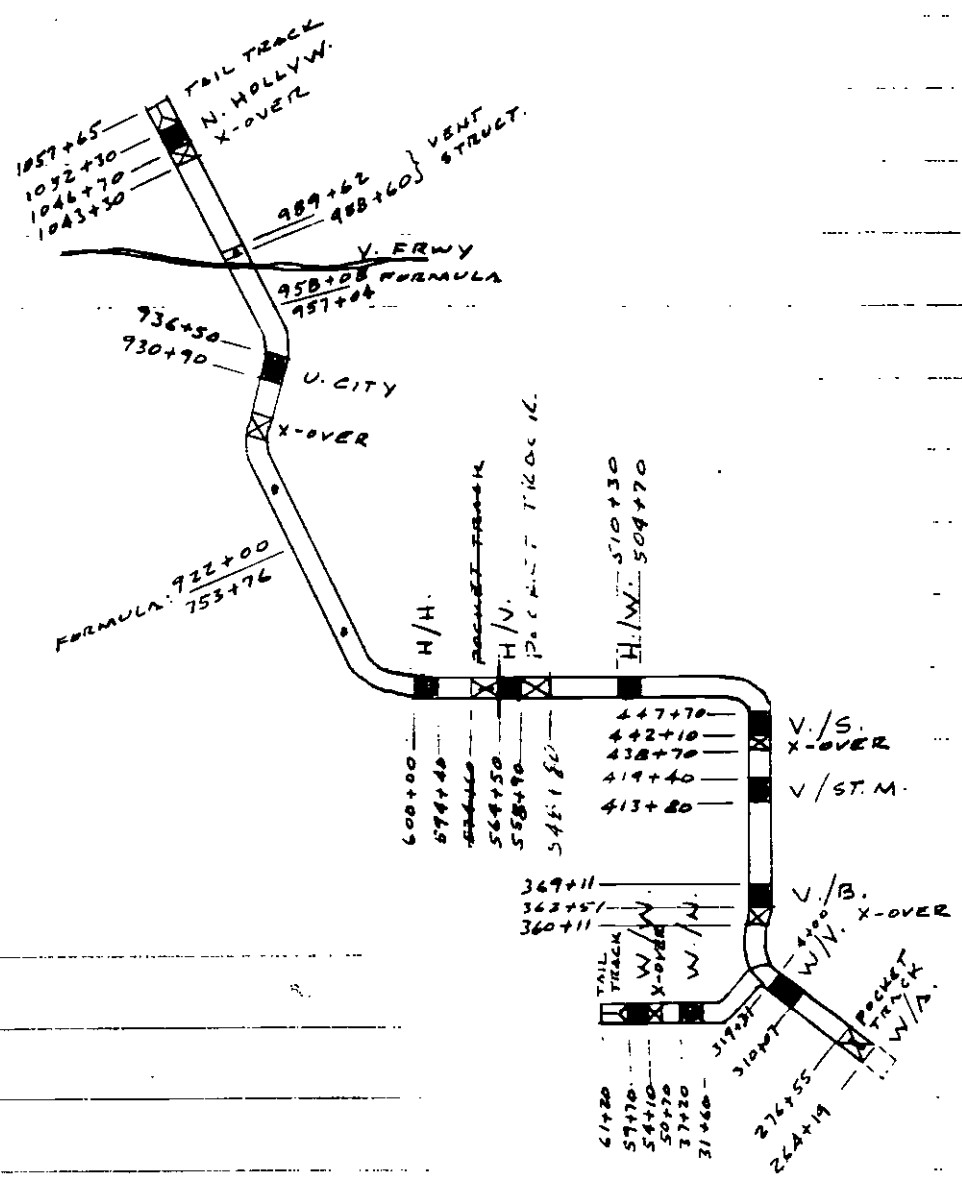
Capital Cost Estimate (x \$1000)
in December, 1985 Dollars

<u>Scenario</u>	<u>OS-2-</u>	<u>OS-3</u>	<u>Total</u>
1. OS-2 limit west end of Pocket Track (Pocket Track west of Hollywood/Vine Station).	\$1,038,676	\$662,420	\$1,701,096
2. OS-2 limit west end of Hollywood/Vine Station (Pocket Track east of Station).	\$1,024,531	\$674,429	\$1,698,960

NOTE: The difference in estimated total cost is attributed to the pro-ration of costs and can be considered insignificant. A breakdown of these estimates follows.

PHASE II

MOS-7, MODIFIED



METRO RAIL COST ESTIMATE -
PHASE II, MOS-2, MODIFIED - SUMMARY
(From Wilshire/Alvarado Through Wilshire/Western Station
and up to and including Pocket Track and Hollywood/Vine Station.)

REPORT DATE: MARCH 1989
DOLLARS x 1,000 IN DECEMBER 1985 DOLLARS

Phase II, MOS-2

Length (Miles)	6.77
No. of Stations	8
Facilities	490,585
Systems	<u>163,426</u>
Total Capital Cost:	654,011
Design/Construction Mgmt.	82,903
Right-of-Way	82,816
Agency Cost	58,763
Owners Insurance	49,378
Specialty Consultants	<u>7,000</u>
Subtotal	934,871
Contingency	<u>89,660</u>
Total	\$1,024,531

Basis: MOS-2, 3/17/89

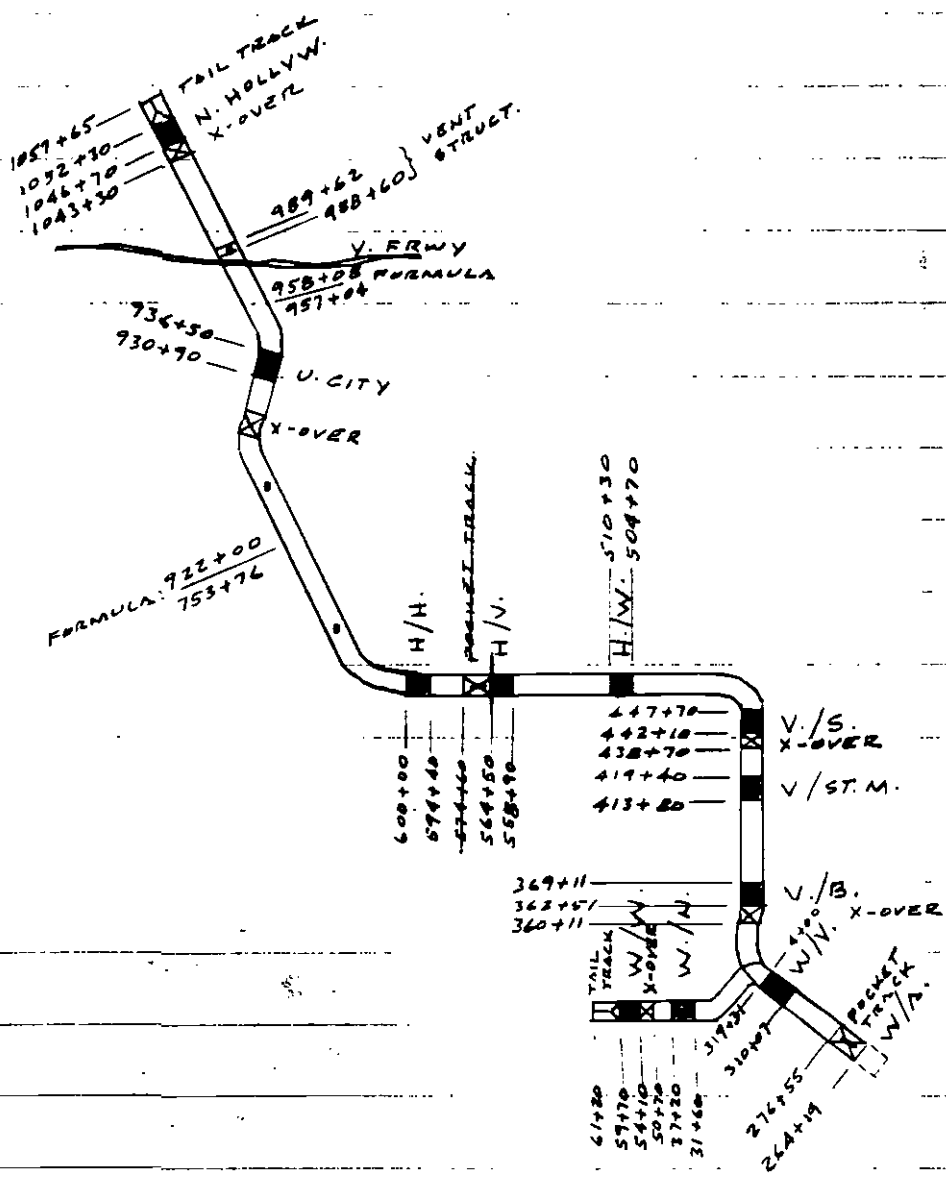
Decrease tunnel length between Hollywood/Western and Hollywood/Vine and relocate pocket track to before Hollywood/Vine Station

Length: From 6.96 mi to 6.77 mi (.9727 factor)

- Revised Facilities, B281 based on shorter tunnel
- Revised Systems by .9727 factor
- Revised Design/Construction Management based on revised facilities cost and prorated Systems cost
- Right of Way unchanged
- Agency Cost revised by .9727 factor
- Revised Insurance based on revised capital cost
- Specialty Consultants unchanged
- Revised Contingency based on revised capital cost, assuming Passenger Vehicles unchanged

PHASE II

MPS-3, MODIFIED



METRO RAIL COST ESTIMATE -
PHASE II, MOS-3, MODIFIED - SUMMARY
(From Hollywood/Vine Station to North Hollywood)

REPORT DATE: MARCH 1989
DOLLARS x 1,000 IN DECEMBER 1985 DOLLARS

Phase II, MOS-3

Length (Miles)	6.13
No. of Stations	3
Facilities	343,344
Systems	<u>99,799</u>
Total Capital Cost:	443,143
Design/Construction Management	57,323
Right-of-Way	30,654
Agency Cost	46,009
Owners Insurance	33,457
Specialty Consultants	<u>3,000</u>
Subtotal	613,586
Contingency	<u>60,843</u>
Total	\$674,429

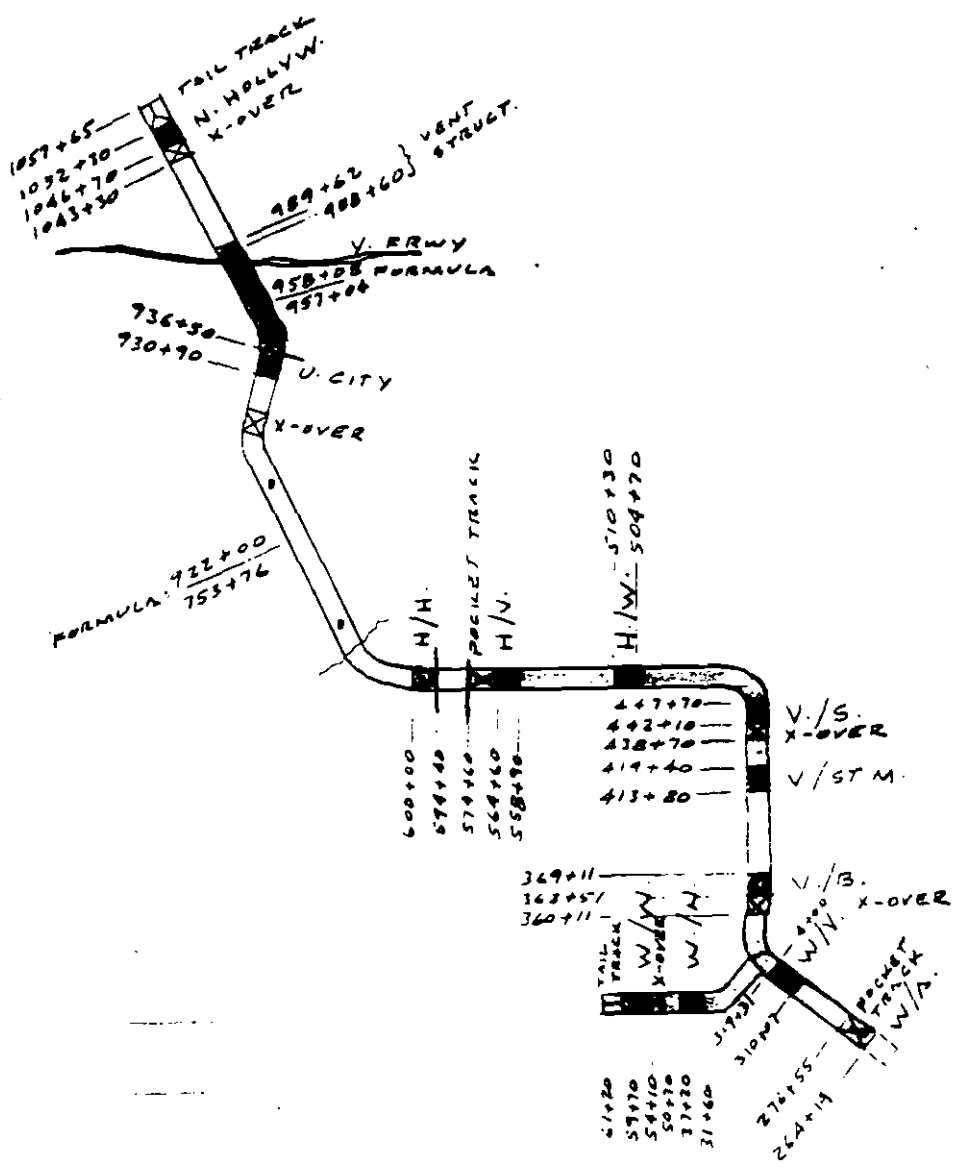
Basis: MOS-3, 03/17/89

Increase tunnel length between Hollywood/Vine and Hollywood Highland where pocket track was relocated to before Hollywood/Vine

Length: From 5.94 mi to 6.13 mi 1.03199 factor

- Revised Facilities, B311 based on longer tunnel
- Revised Systems by 1.032 factor
- Revised Design/Construction Management based on revised facilities and prorated Systems costs
- Right of Way unchanged
- Agency Cost revised by 1.032 factor
- Revised Insurance based on revised capital cost
- Specialty Consultants unchanged
- Revised Contingency based on revised capital cost, assuming Passenger Vehicles unchanged

PHASE II
CASE MOS-2



METRO RAIL COST ESTIMATE -
PHASE II, MOS-2 - SUMMARY
(From Wilshire/Alvarado Through Wilshire/Western Station
and up to and including Hollywood/Vine Station and Pocket Track

REPORT DATE: MARCH 1989
DOLLARS x 1,000 IN DECEMBER 1985 DOLLARS

Phase II, MOS-2

Length (Miles)	6.96
No. of Stations	8
Facilities	495,393
Systems	<u>168,013</u>
Total Capital Cost:	663,406
Design/Construction Mgmt.	83,885
Right-of-Way	82,816
Agency Cost	60,413
Owners Insurance	50,087
Specialty Consultants	<u>7,000</u>
Subtotal	947,607
Contingency	<u>91,069</u>
Total	\$1,038,676

SCRTRD METRO RAIL PROJECT
 PHASE II, MOS-2
 REPORT DATE: MARCH 1989
 DOLLARS X 1,000 IN DECEMBER 1985 DOLLARS

<u>Contract</u>	<u>Description</u>	<u>Current Estimate</u>	<u>See Sheet</u>	<u>Comments</u>
<u>FACILITIES</u>				
B201	Line Section, Wilshire/Alvarado Station to Wilshire/Vermont Station W/Pocket Track	33,664	6	Conceptual Estimate
MA-Work	Utility Work - Wilshire/Alvarado	1,000	7	Conceptual Estimate
B211	Wilshire/Vermont Station, Stage I	48,280	8	Conceptual Estimate
B215	Wilshire/Vermont Station, Stage II	21,206	9	Conceptual Estimate
B216	Wilshire/Vermont Site Restoration and Landscaping	1,200	10	Conceptual Estimate
MA-Work	Utility Work Wilshire/Vermont Station	1,800	11	Conceptual Estimate
B221	Line Section, Wilshire/Vermont to Wilshire/Western, Including Wilshire/Normandie Station, Complete	45,513	12	Conceptual Estimate
B222	Wilshire/Normandie Site Restoration and Landscaping	500	13	Conceptual Estimate
B223	Wilshire/Normandie Utility Rearrangement	750	14	Conceptual Estimate
MA-Work	Utility Work Wilshire/Normandie Station	3,250	15	Conceptual Estimate
B231	Wilshire/Western Station, Complete w/Crossover and Tailtrack	37,292	16	Conceptual Estimate
B232	Wilshire/Western Site Restoration and Landscaping	1,000	17	Conceptual Estimate

<u>Contract</u>	<u>Description</u>	<u>Current Estimate</u>	<u>See Sheet</u>	<u>Comments</u>
B233	Wilshire/Western Utility Rearrangement	1,500	18	Conceptual Estimate
MA-Work	Utility Work Wilshire/Western Station	2,500	19	Conceptual Estimate
B241	Line Section Wilshire/Vermont to Vermont/ Beverly Including Vermont/Beverly Station, Complete, with Crossover	52,858	20	Conceptual Estimate
B242	Vermont/Beverly Site Restoration and Landscaping	1,000	21	Conceptual Estimate
B243	Vermont/Beverly Utility Rearrangement	1,500	22	Conceptual Estimate
MA-Work	Utility Work, Vermont/Beverly Station	2,500	23	Conceptual Estimate
B251	Line Section Vermont/Beverly to Vermont/ Sunset, Including Vermont/Santa Monica Station, Complete	57,188	24	Conceptual Estimate
B252	Vermont/Santa Monica Sitework	500	25	Conceptual Estimate
B253	Vermont/Santa Monica Utility Rearrangement	750	26	Conceptual Estimate
MA-Work	Utility Work - Vermont/Santa Monica Station	3,250	27	Conceptual Estimate
B261	Line Section Vermont/Sunset to Hollywood/ Western, Including Vermont/Sunset Station, Complete, with Crossover	62,653	28	Conceptual Estimate
B262	Vermont/Sunset Site Restoration and Landscaping	1,000	29	Conceptual Estimate
B263	Vermont/Sunset Utility Rearrangement	1,500	30	Conceptual Estimate
MA-Work	Utility Work, Vermont/Sunset Station	2,500	31	Conceptual Estimate
B271	Hollywood/Western Station, Complete	25,949	32	Conceptual Estimate

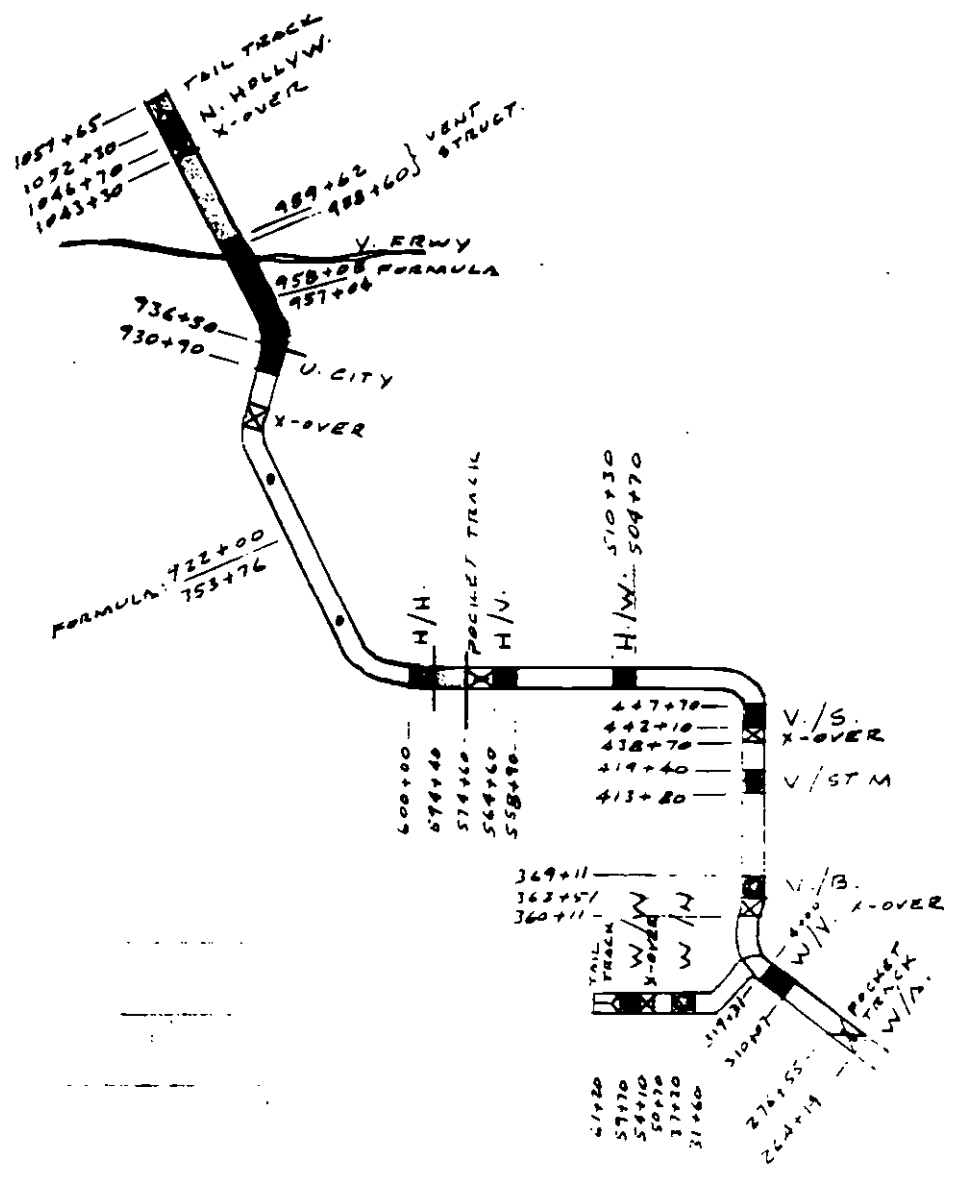
<u>Contract</u>	<u>Description</u>	<u>Current Estimate</u>	<u>See Sheet</u>	<u>Comments</u>
B272	Hollywood/Western Site Restoration and Landscaping	500	33	Conceptual Estimate
B273	Hollywood/Western Utility Rearrangement	750	34	Conceptual Estimate
MA-Work	Utility Work, Hollywood/Western Station	3,250	35	Conceptual Estimate
B281	Line Section Hollywood/Western to Hollywood/Vine, Including Hollywood/Vine Station and Pocket Track	72,540	36	Conceptual Estimate
B282	Hollywood/Vine Site Restoration and Landscaping	1,500	37	Conceptual Estimate
B283	Hollywood/Vine Utility Rearrangement	2,250	38	Conceptual Estimate
MA-Work	Utility Work Hollywood/Vine Station	<u>2,000</u>	39	Conceptual Estimate
	TOTAL FACILITIES	495,393		

SCRTD METRO RAIL PROJECT
 PHASE II, MOS-2
 REPORT DATE: MARCH 1989
 DOLLARS X 1,000 IN DECEMBER 1985 DOLLARS

<u>Contract</u>	<u>Description</u>	<u>Current Estimate</u>	<u>See Sheet</u>	<u>Comments</u>
<u>SYSTEMS</u>				
B610	Trackwork Procure and Install	13,191	40	Conceptual Estimate
B612	Contact Rail, Procure	2,699	41	Conceptual Estimate
B615	Protective Coverboard, Procure	588	42	Conceptual Estimate
B616	Direct Fixation Rail Fasteners, Procure	1,617	43	Conceptual Estimate
B620	Automatic Train Control	13,257	44	Conceptual Estimate
B630	Traction Power, Procure	8,526	45	Conceptual Estimate
B631	Traction Power, Installation	5,224	46	Conceptual Estimate
B640	Communications	33,890	47	Conceptual Estimate
B650	Passenger Vehicles	56,280	48	Conceptual Estimate
B670	Auxiliary Vehicles, Procure	852	49	Conceptual Estimate
B680	Operational Graphics	95	50	Conceptual Estimate
B710	Escalators and Elevators	15,015	51	Conceptual Estimate
B730	Fixed Shop Equipment, Procure	129	52	Conceptual Estimate
A735	Portable Shop Equipment, Procure	307	53	Conceptual Estimate
B740	Ventilation, Procure	4,821	56	Conceptual Estimate
B745	Air Handling Equipment, Procure	1,600	57	Conceptual Estimate

<u>Contract</u>	<u>Description</u>	<u>Current Estimate</u>	<u>See Sheet</u>	<u>Comments</u>
B760	Signs and Graphics, Procure	1,850	58	Conceptual Estimate
B770	Rubber Tired Vehicles, Procure	430	59	Conceptual Estimate
B775	Mobile Emergency and Maintenance Equip., Procure	105	60	Conceptual Estimate
B780	Furniture, Procure	96	61	Conceptual Estimate
B785	Fire Suppression Equipment, Procure	15	62	Conceptual Estimate
B790	Stores and Consumables, Procure	105	63	Conceptual Estimate
B795	Uninterruptible Power Supplies	800	64	Conceptual Estimate
H840	Fare Collection	4,204	65	Conceptual Estimate
	Art in Transit	1,517	66	Conceptual Estimate
B4239	Pactel Meridian Systems (EPABX)	<u>800</u>	67	Conceptual Estimate
	TOTAL SYSTEMS	168,013		

PHASE II
CASE MOS-3



METRO RAIL COST ESTIMATE -
PHASE II, MOS-3 - SUMMARY
(From Hollywood/Vine Station Pocket Track to
North Hollywood)

REPORT DATE: MARCH 1989
DOLLARS x 1,000 IN DECEMBER 1985 DOLLARS

Phase II, MOS-3

Length (Miles)	5.94
No. of Stations	3
Facilities	338,537
Systems	<u>96,705</u>
Total Capital Cost:	435,242
Design/Construction Management	56,422
Right-of-Way	30,654
Agency Cost	44,583
Owners Insurance	32,861
Specialty Consultants	<u>3,000</u>
Subtotal	602,762
Contingency	<u>59,658</u>
Total	\$662,420

SCRTD METRO RAIL PROJECT
 PHASE II, MOS-3
 REPORT DATE: MARCH 1989
 DOLLARS X 1,000 IN DECEMBER 1985 DOLLARS

<u>Contract</u>	<u>Description</u>	<u>Current Estimate</u>	<u>See Sheet</u>	<u>Comments</u>
<u>FACILITIES</u>				
B301	Hollywood/Highland Station, Complete	25,949	5	Conceptual Estimate
B302	Hollywood/Highland Station, Sitework	500	6	Conceptual Estimate
B303	Hollywood/Highland Utility Rearrangement	750	7	Conceptual Estimate
MA-Work	Utility Work - Hollywood/Highland	3,250	8	Conceptual Estimate
B311	Line Section, Hollywood/Vine Pocket Track Universal City Station with Crossover	145,660	9	Conceptual Estimate
MA-Work	Utility Work Hollywood/Highland Access Shaft	500	10	Conceptual Estimate
B321	Universal City Station, Complete	40,370	11	Conceptual Estimate
B326	Universal City Roadways, Site Resotation and Landscaping	6,764	12	Conceptual Estimate
MA-Work	Utility Work - Universal City	1,800	13	Conceptual Estimate
B331	Line Section, Universal City to just North of the Ventura Freeway w/Vent Structure	34,480	14	Conceptual Estimate
MA-Work	Utilities, Vent Structure	1,100	15	Conceptual Estimate
B341	Line Section, from just North of Ventura Freeway to the North Hollywood Station	25,628	16	Conceptual Estimate
MA-Work	Utility Work, Vent Structure Acces Shaft	100	17	Conceptual Estimate

<u>Contract</u>	<u>Description</u>	<u>Current Estimate</u>	<u>See Sheet</u>	<u>Comments</u>
B351	North Hollywood Station w/Crossover and Tailtrack Complete	45,936	18	Conceptual Estimate
B352	North Hollywood Sitework	1,500	19	Conceptual Estimate
B353	North Hollywood Utility Rearrangement	2,250	20	Conceptual Estimate
MA-Work	Utility Work, North Hollywood Station	<u>2,000</u>	21	Conceptual Estimate
	TOTAL FACILITIES	338,537		

SCR TD METRO RAIL PROJECT
 PHASE II, MOS-3
 REPORT DATE: MARCH 1989
 DOLLARS X 1,000 IN DECEMBER 1985 DOLLARS

<u>Contract</u>	<u>Description</u>	<u>Current Estimate</u>	<u>See Sheet</u>	<u>Comments</u>
<u>SYSTEMS</u>				
B610	Trackwork Procure and Install	9,947	22	Conceptual Estimate
B612	Contact Rail, Procure	2,122	23	Conceptual Estimate
B615	Protective Coverboard, Procure	455	24	Conceptual Estimate
B616	Direct Fixation Rail Fasteners, Procure	1,381	25	Conceptual Estimate
B620	Automatic Train Control	8,006	26	Conceptual Estimate
B630	Traction Power, Procure	5,040	27	Conceptual Estimate
B631	Traction Power, Installation	3,034	28	Conceptual Estimate
B640	Communications	17,582	29	Conceptual Estimate
B650	Passenger Vehicles	37,520	30	Conceptual Estimate
B680	Operational Graphics	55	31	Conceptual Estimate
B710	Escalators and Elevators	5,031	32	Conceptual Estimate
B740	Ventilation, Procure	2,703	33	Conceptual Estimate
B745	Air Handling Equipment, Procure	750	34	Conceptual Estimate
B760	Signs and Graphics, Procure	694	35	Conceptual Estimate
B780	Furniture, Procure	36	36	Conceptual Estimate
B785	Fire Suppression Equipment, Procure	6	37	Conceptual Estimate

<u>Contract</u>	<u>Description</u>	<u>Current Estimate</u>	<u>See Sheet</u>	<u>Comments</u>
B790	Stores and Consumables, Procure	50	38	Conceptual Estimate
B795	Uninterruptible Power Supplies	400	39	Conceptual Estimate
H840	Fare Collection	1,024	40	Conceptual Estimate
	Art in Transit	569	41	Conceptual Estimate
B4239	Pactel Meridian Systems (EPABX)	<u>300</u>	42	Conceptual Estimate
	TOTAL SYSTEMS	96,705		