

ANALYSIS OF LOW
PRODUCTIVITY LINES AS OF
JUNE 1981

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SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
OCTOBER 1981

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ANALYSIS OF LOW PRODUCTIVITY LINES AS OF
JUNE 1981

INTRODUCTION

The Planning Department annually analyzes those lines which are deemed to be low producers. This report studies those lines with low productivity, to determine the cause(s) for the low performance factor and make recommendations that will improve their productivity. The District has established a standard which designates a line as being of low productivity when an average of less than 20 boardings per vehicle hour are recorded. A list of productivity for all District lines is determined monthly by the Service Analysis Section and published in the Monthly Ranking List.

This measure of efficiency is defined as the total number of patrons boarding a line divided by the total number of vehicle hours for that line.

The June 1981 Monthly Ranking List was used to determine which lines were low producers. This report shows 34 lines which fell below the District standard. It should be noted that the date of the Monthly Ranking List is the publication date. The actual date of the riding check for the low productivity lines ranges from July 26, 1979 to February 19, 1981. The average date of the check for these lines was July 1980, these lines are grouped into three sections:

1. Local - Lines that operate on surface streets for all or the vast majority of the route;
2. Express - Lines that have a portion of their route on the freeway or busway and for which the passengers are charged an express fare; and
3. Contract - Lines which have a significant portion of their cost paid for by another agency under contract with the District.

The analysis of these lines is presented in the following format:

1. Line number and title.
2. Location and service-1-

3. Productivity.
4. Modifications.
5. Reasons for low productivity.
6. Recommendations.

In addition to these six items, the section on express lines includes a paragraph on each line's percentage of seat occupied. This is because the passengers per bus hour (ppbh) does not adequately reflect the performance of some long distance express lines. For example, Line 606 has a ppbh of 14.8 yet over 75% of all the available seats are occupied when this line is operating on the freeway. Even if all of the seats on all of the trips on Line 606 were taken, this line would still have a ppbh of under 20. Therefore, this additional performance measure is included to provide a more complete understanding of the productivity of the express lines.

I. LOCAL SERVICE LINES

A. Summary of Findings

The June 1981 Ranking List has 1 local routes (listed as 13 lines) which have a ppbh of below 20. Some of the lines are paired together for scheduling purposes (e.g. 451/453 and 452/454). Five are circulation routes (Lines 451, 452, 453, 454, and 874) one (Line 520) is a local commuter service, and the remaining 11 (Lines 161, 430, 431, 441, 443, 825, 827, 821, 831, 861, and 869) are regional lines.

Most of these low productivity lines have very similar characteristics

1. The five circulation routes operate on 30-minute frequencies on weekdays only. Their spread is from 6:00 am to 7:30 pm. Of the 11 regional routes, six operate every 60 minutes and only two operate as frequently as every 30 minutes. The other three provide service frequencies between 30 and 60 minutes.
2. Only one regional route (Line 869) provides Saturday service. This line has an alternate route which operates over west Palos Verdes Dr. The net result is a 60 minute headway around the peninsula and 1/2 hour frequencies to LAX.
3. All of the other regional routes provide weekday only service.
4. None of the low performance local lines operate into downtown Los Angeles.
5. They all in addition, operate through relatively low density areas. Eight routes operate in the San Gabriel Valley, four routes each in the mid-cities and South Bay sectors and one route in the San Fernando Valley. -2-

Because these routes operate such infrequent service over a limited number of days with no night service, their potential market has been limited.

All local lines operating on long headways are very difficult for riders to use, particularly if the riders' origin and destination are not on or near the route of one bus route. Also transferring from or to a 60-minute frequency line usually results in long wait time which may be longer than the riders' time spent on the bus. This situation is unacceptable to most riders, as demonstrated by these lines' low ridership. Wherever possible, the District should strive to provide a maximum of 30-minute headways on local lines. Where one or more long frequency lines cross, every effort must be made to make this location a timed transfer point, particularly where low productivity lines are concerned. Making these buses wait three minutes would inconvenience few riders and would in effect offer through service on the four branches of the two meeting lines.

B. Summary of Recommendations

- | | |
|---------|--|
| 161 | 1) Extend route into Ventura County to the Oaks Shopping Center (subject to contractual agreement with Ventura County).
2) Establish a timed transfer site at Topanga Plaza.
3) Adjust specific trip times. |
| 430 | 1) Change line number to 175.
2) Extend route of line across York Blvd. to Eagle Rock Blvd., Rowena, Hyperion, Fountain to Western Aves.
3) Establish new Line 176 to cover Division St. section of Line 430. |
| 431 | 1) Change headway to 30 minutes.
2) Change route to operate on San Marino Av. in the City of San Marino.
3) Extend route and combine with Line 831. |
| 441/443 | 1) Establish a timed transfer site at Eastland Shopping Center and West Covina Plaza.
2) Extend Line 441 to Rio Hondo College.
3) Extend Line 443 to Puente Hills Mall.
4) Combine extended Line 441 with Line 821. |
| 451/453 | 1) Establish a timed transfer site at Mission Blvd. and Garey Ave. with Line 451, 452, 454 and 440. |

- & 2) Extend Line 452 over San Bernardino Ave. and Line 454 over Arrow Hwy. both to Montclair Plaza (subject to contractual agreement with San Bernardino County).
- 452/454 3) Extend Line 452 to Cal State Polytechnic University, Pomona.
- 520 1) Study will be done before recommendations are made.
- 821 1) Extend route of line from Beverly Blvd. and Workman Mill Road over Worman Mill Road and combine route with Line 441.
- 825 & 827 1) Exchange routes of line between Broadway and Greenleaf Ave. and Norwalk Blvd. and Carson St.
- 2) Reroute Pioneer Blvd. service to Los Cerritos Center via 183rd St., Gridley Rd. and South St.
- 831 1) Extend route of line north from Beverly and Rosemead Blvds. via Beverly and Montebello Blvd. and combine with Line 431 (subject to approval of municipal operator).
- 861 1) Cancel service north of Redondo Beach Blvd.
- 2) Extend service east on Redondo Beach Blvd. to tie into and consolidate with Line 844.
- 869 1) Renumber each branch with individual numbers.
- 2) Establish timed transfer site at Market St. and Manchester Ave.
- 874 1) Cancel service and operate Line 872 on weekend routing seven days per week.

II. EXPRESS SERVICE LINES

A. Summary of Findings

There are 17 express lines which had a ppbh of below 20. All of these lines, except 607 are operating during the peak period only. Another similarity is that all but Lines 512 and 514 operate into downtown Los Angeles, were established in June 1979 as reverse peak service lines on a contract basis with Blue Cross Corporation. In June 1980, Blue Cross discontinued their funding but the District continued to operate this service.

The average passenger load on these express lines in the peak direction of travel is 29 per trip, which represents an occupancy rate of over 60% of all available seats. Only three lines have ridership averaging less than 20 passengers per trip, Lines 512, 514, and 601. Four routes, Lines 492, 606, 755, and 758 are averaging over 70% of seated capacity.

The high rate of utilization of these low productivity lines shows that the ppbh rating formula is insufficient when dealing with express services. The problems rests in the fact that these lines transport people over large distances which require long trip times. In addition, these lines have very large percentage of out-of-service time and foreign line service. Because of this, the ppbh does not accurately reflect the viability of express lines. A better indicator of performance would be a composite ranking. This ranking could consider such things as passenger miles per seat miles, subsidy per passenger, cost per passenger mile, etc. This report contains the passenger' per trip on the express portion of route, in order to provide a more complete picture of the performance of the express lines.

This subject should be dealt with in greater detail in another technical report. However, a more accurate indicator of performance would focus more attention on those express lines which actually are low producers.

B. Summary of Recommendations

- 123 1) Add two trips in each direction to the schedule.
- 2) Reroute line to make intermediate stops at Reseda and Van Nuys Blvds.
- 456 1) Monitor line to determine long term effect of December 1980 route change.
- 492 1) Eliminate service east of Myrtle Ave.
- 2) Dovetail schedule with Line 493 on Peck Road.
- 512 1) Cancel line.
- 514 1) Establish schedule connection with Line 210.
- 601 1) Cancel line. Service on Sunset to be provided by rerouted Line 434 and 602.
- 602 1) Extend route to Sunset Blvd. and Bristol Ave.
- 604 1) Cancel line. Service to be provided by rerouted Lines 605 and 606 in conjunction with Line 65.

- 605 1) Reroute line into Culver and Venice Blvds.
- 2) Augment service to accommodate Line 604 patrons.
- 606 1) Augment service to accommodate Line 604 patrons.
- 2) Dovetail schedule with Line 605.
- 607 1) Eliminate service south of Imperial Highway.
- 2) Reroute Line 867 to provide service on cancelled portion of Line 607 to the Del Amo Center.
- 608 1) Monitor line to determine the effect of upcoming changes.
- 2) Reroute peak period service from Temescal Canyon Road to Chantagua Blvd. (subject to approval of municipal carrier).
- 716 1) Reroute to provide for intermediate stops at Reseda and Van Nuys Blvds.
- 2) Establish reverse direction service.
- 755 1) Establish additional stops on Lakewood Blvd.
- 758 1) Eliminate service to the La Mirada Mall.
- 814 1) Cancel reverse direction service.
- 2) Increase headways from 15 to 20 minutes.

III. CONTRACT SERVICE LINES

A. Summary of Findings

All or a portion of the operating cost of contract lines are funded by other public agencies. Those lines operating only within Los Angeles County such as the Westwood Mall Minibus are totally funded by the contracting agencies. Services operating into neighboring counties and providing service in Los Angeles County are funded by the neighboring county. None of the recommended changes can be implemented until the appropriate sponsoring agency(ies) approves them.

Four contract lines fell below 20 passengers per bus hour, Lines 205, 496, 800, and 860. The first line is Friday, Saturday, and Sunday evening only circulation service. The last three lines are long distance inter-county express lines. These lines operate in different areas and corridors. Line 205 is in Westwood; Line 496 links the cities of San Bernardino, Riverside and Los Angeles. Line 800 is the Santa Ana Freeway service between Santa Ana and Los Angeles. Line 860

operates between Riverside and Long Beach. Because of the differences in service and service area, these lines have few significant common features.

B. Summary of Recommendations

- 205 Increase marketing efforts.
- 496 Monitor proposed route modifications.
- 800 Extend route through downtown Los Angeles.
- 860 Monitor proposed route modifications.

ANALYSIS OF LOCAL SERVICE LINES

Line 161 (Westlake - Canoga Park)

Service and Location

Service and Location

This line operates a 60-minute service Monday through Friday from Westlake to Canoga Park.

Productivity

There has been a continuous increase in productivity from 7.9 ppbh (220 passengers) on 5-5-77 to 17.5 ppbh (488 passengers on 5-29-79.) However, the last riding check 8-25-80 indicates that ppbh has dropped to 11.4 (317 passengers).

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
ppbh	7.9	9.5	17.5	11.4
pssgrs	220	300	488	317

Modifications

The vehicle miles and hours have been consistent since 1977. There have not been any major changes on this line but there have been numerous requests for weekend service.

Reason for Low Productivity

The low productivity may be a result of the sparsely populated area of service, the low passenger turnover (average passenger trip length is 14.4 miles compared to the District's average of 4.0 miles) and the length of the lines (18.2 miles 42 minutes in one direction).

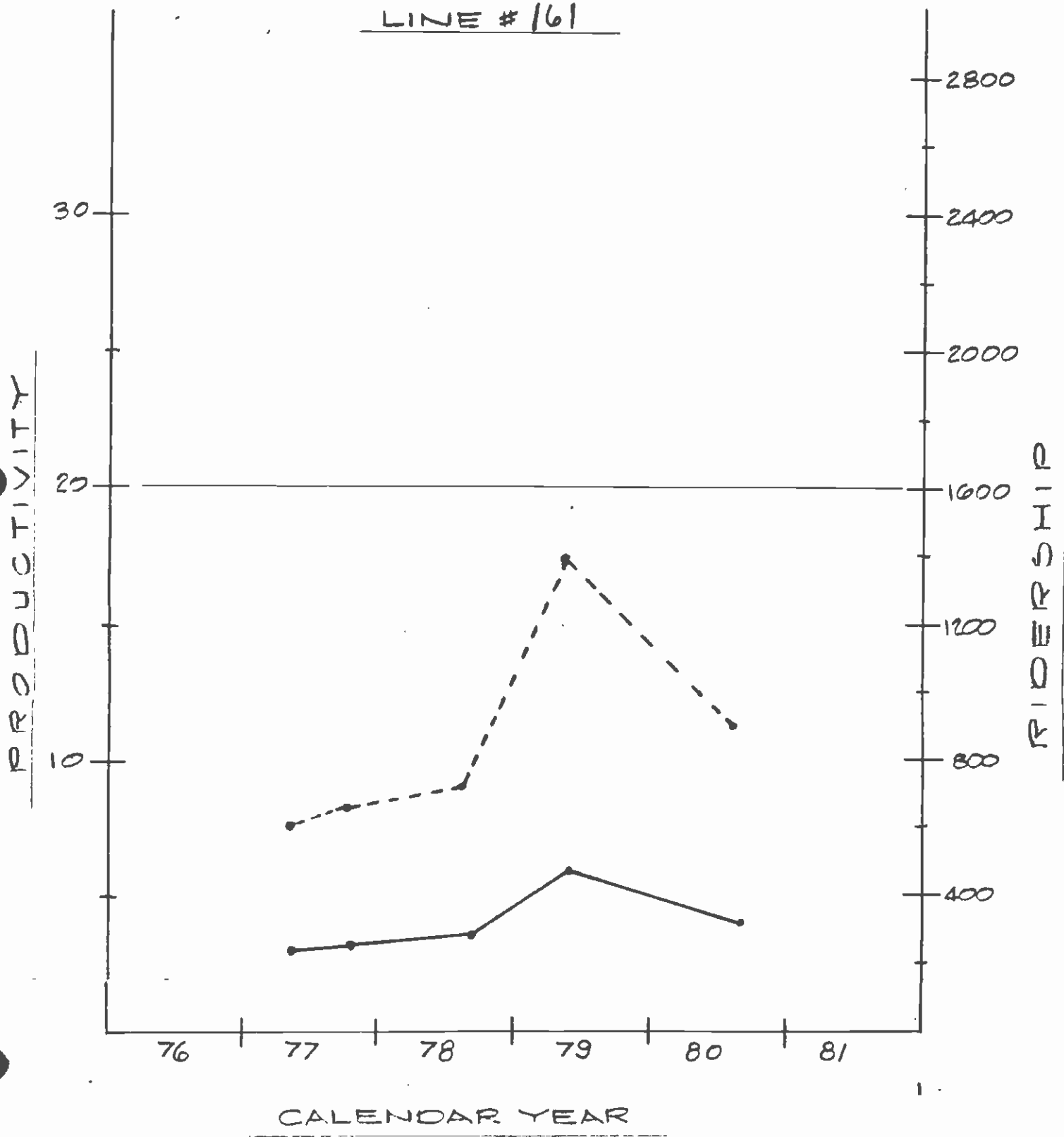
Recommendations

Line 161

1. Extend Line 161 to Oaks Shopping Center in Ventura County. This extension would encourage two way travel by creating a traffic generator at both ends of the line plus it would encourage additional local ridership. However, this service could only be done on a contract basis through South Coast Area transit.
2. Establish a time transfer location at Topanga Plaza which would coincide with Lines 716, 164, 165, and 151. This would expand the travel opportunities for passengers. Therefore, possibly increasing ridership.
3. Cancel the last eastbound pm trip and add an earlier eastbound am trip. The purpose is to redistribute the service to match the demand.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE # 161



PPBH - - - - PASG. ———

Line 430 (Glassell Park-Highland Park-Alhambra-El Monte)

Location and Service

This line operates a 30-minute service Monday through Friday from Cypress Ave. and Division St. in Glassell Park to El Monte station.

Productivity

The productivity has steadily increased from 1976 to 1979. In 1980, it decreased to 19.1. The last check which was in July 1980 and the productivity decreased 22% from the 1979 check which was taken when school was in session.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
ppbh	11.0	13.8	18.4	24.6	19.1
pssgrs	890	900	1229	1641	1267

Modification

In 1977, Lines 43 and 430 were combined to form Line 430. This was done to attract ridership. There had been a great deal of concern within the community along Division St. regarding the damage to the homes due to the large buses. Complaints had been made by residents on Division St. that buses on Line 430 were breaking the streets and causing cracks to walls and foundations of their houses. In 1978, an agreement was made to use minibuses on the line in order to alleviate the problem.

However, the District is currently having problems with the maintenance of the minibuses. These problems are compounded by the difficulty of obtaining replacement parts. Therefore, these minibuses are being phased out as they deteriorate and being replaced by intermediate sized buses.

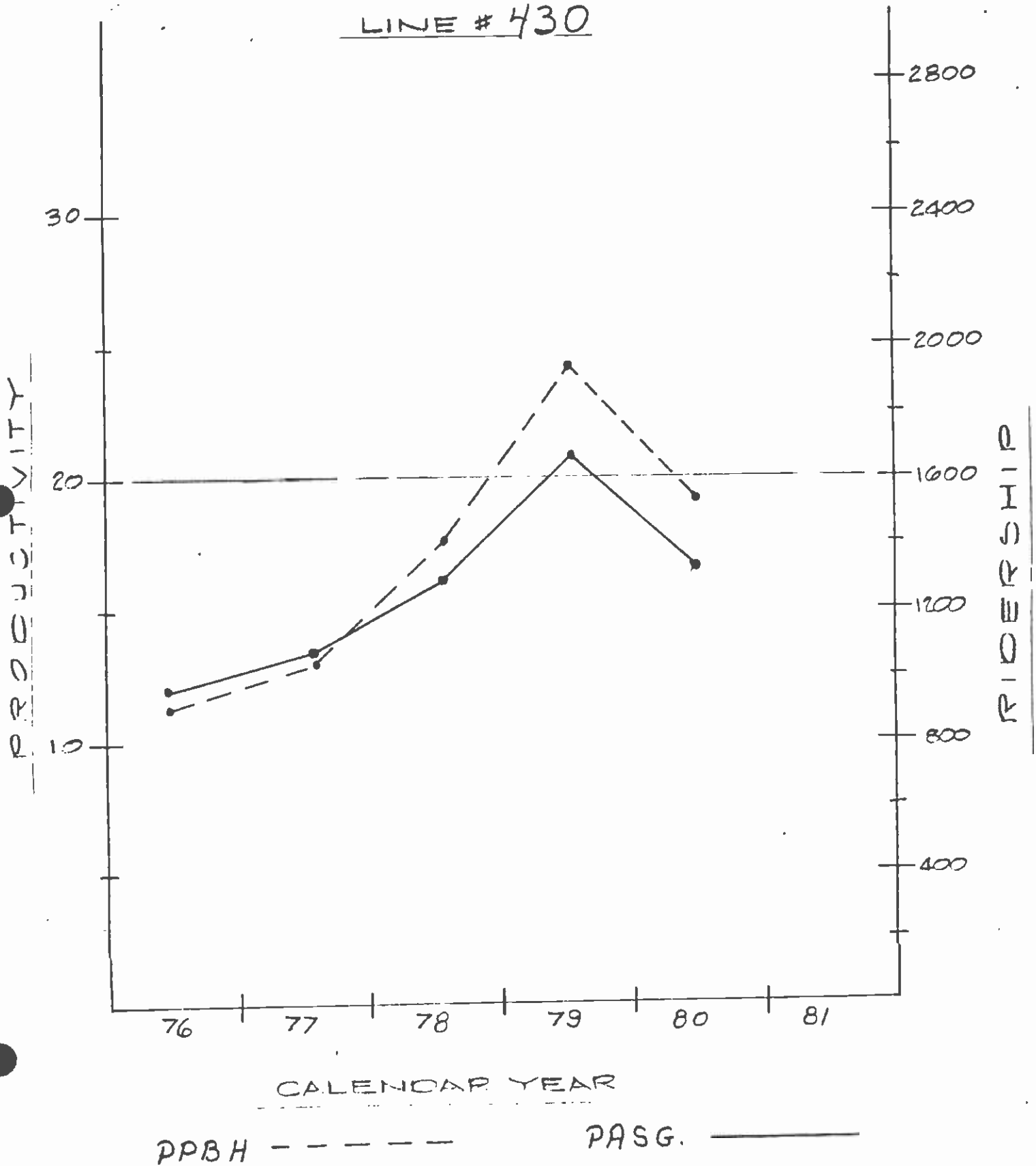
Reason for Low Productivity

There were two riding checks taken in 1979. Both checks were taken when school was in and both were over 20 ppbh.

The ridership may have dropped because school was out on 7-21-80 when the last check was taken.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE # 430



Recommendation

It is recommended that Line 430 be tied with and its number changed to Line 175 in order to conform to the new RTD numbering system. The new Line 175 will go to regular route of Line 430 from El Monte to Figueroa St. and York Blvd. Then new Line 175 will extend across York Blvd., Eagle Rock Blvd., Fletcher Dr., Rowena, Hyperion, Fountain to Western Aves. The current York Blvd. service on Line 6 could be reduced.

The Division St. section of Line 430 will be covered by a new Line 176.

Line 176 will extend from San Pascual along Figueroa St. to Division St. across Fletcher and ties in with new Line 175.

This recommendation will give the East San Gabriel Valley direct access to Hollywood and West Los Angeles. This modification basically conforms to the 1980 Sector Improvement Plan (SIP).

Line 431 (San Gabriel Blvd.-Altadena Dr.)

Location and Service

This line operates a 32 minute headway, Monday through Friday between Rosemead and Altadena.

Productivity

The productivity has been continuously rising since 1976. Productivity has increased from 9.5 ppbh (1070 passengers) to 18.5 ppbh (1052 passengers) 6-26-80.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1980</u>
ppbh	9.5	11.5	15.2	18.5
pssgrs	1070	1220	820	1052

Modification

In December 1977, the headway was changed from 20 to 30 minutes. This change saved equipment and almost doubled the productivity of the line. It was later extended to 32 minutes in order to save one additional bus.

Reason for Low Productivity

The low productivity may be a result of low density and the lack of a major traffic generator along the route of the line.

Recommendation

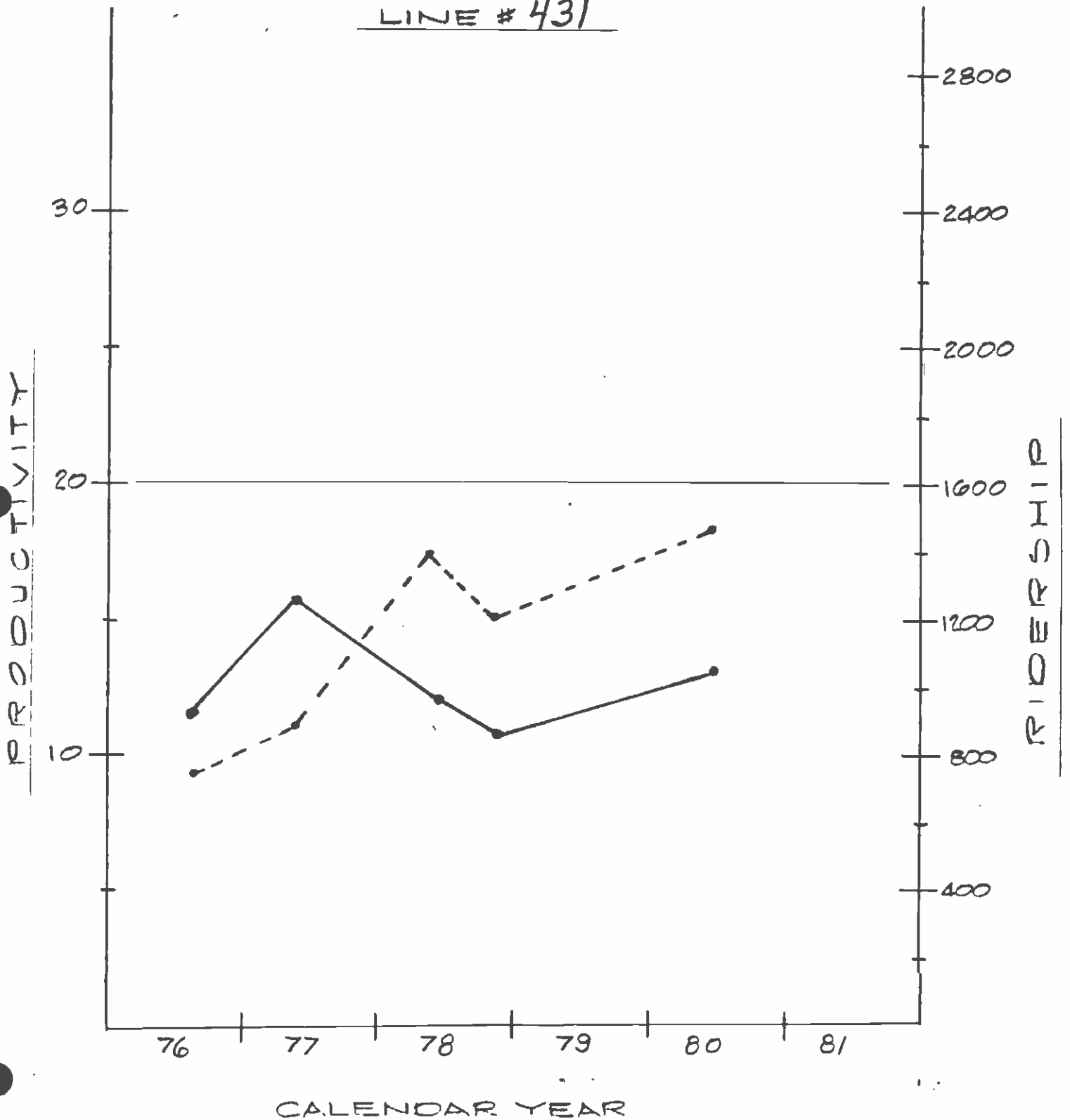
It is recommended that portions of the line be tied in with other services.

1. The headway of this line should be more compatible with the frequency of service of the connecting lines. Of the many lines, Line 431 crosses, trips will be scheduled to meet the other lines at transfer points as much as possible. This would expand the passengers' travel area and save travel time for transferring passengers. A 30-minute headway would allow formore opportunities for transfer.

2. Eliminate the duplication of service on San Gabriel Blvd. by extending Line 431 south on San Marino Ave., Las Tunas and San Gabriel Blvd. to regular route. (Line 487 - duplicates portion of the Line 431 on San Gabriel).
3. Extend the route of Line 431 south from San Gabriel Blvd. and Hill Dr. via Paramount Blvd., Montebello Blvd., Beverly Blvd. and Paramount Blvd. and combine with Line 831. The proposal would require the approval of Montebello Municipal Bus Lines.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE # 431



PPBH - - - - -

PASG. ————

Line 441 (Puente Ave.-Citrus Ave.)

Line 443 (Sunset Ave.-Covina Blvd.-San Dimas Ave.)

Location and Service

These two lines form a circular route with a 60-minute headway from Don Julian Rd. and Workman Mill in La Puente to West Covina, Glendora, San Dimas back to La Puente on Gale Ave. and Latchford Ave. These lines operate a Monday through Friday service.

Productivity

There has been a continuous increase in productivity from 5.3 ppbh (870 passengers) on 8-3-76 (summer check) to 10.3 ppbh (775 passengers on 11-16-79. The reduction of the service level from 30 to 60 minutes resulted in a drop in total boardings but a near doubling in productivity.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
ppbh	5.3	7.5	8.2	10.3	9.0
pssgrs	870	725	600	755	661

Modification

The line was originally designed in 1976 with all trips having an inline layover at the Eastland Shopping Center. However, the West Covina Plaza opened at the same time as the implementation of the line. This generator resulted in a shift in passenger demands.

The line had several modifications since its implementation. In 1977, the night and weekend service was cut; the headway went from 30 to 60 minutes; and the layover was relocated to the end of the line.

In March 1981, Line 441 was rerouted to also serve West Covina Plaza. It was believed that this change would increase ridership.

Reason for Low Productivity

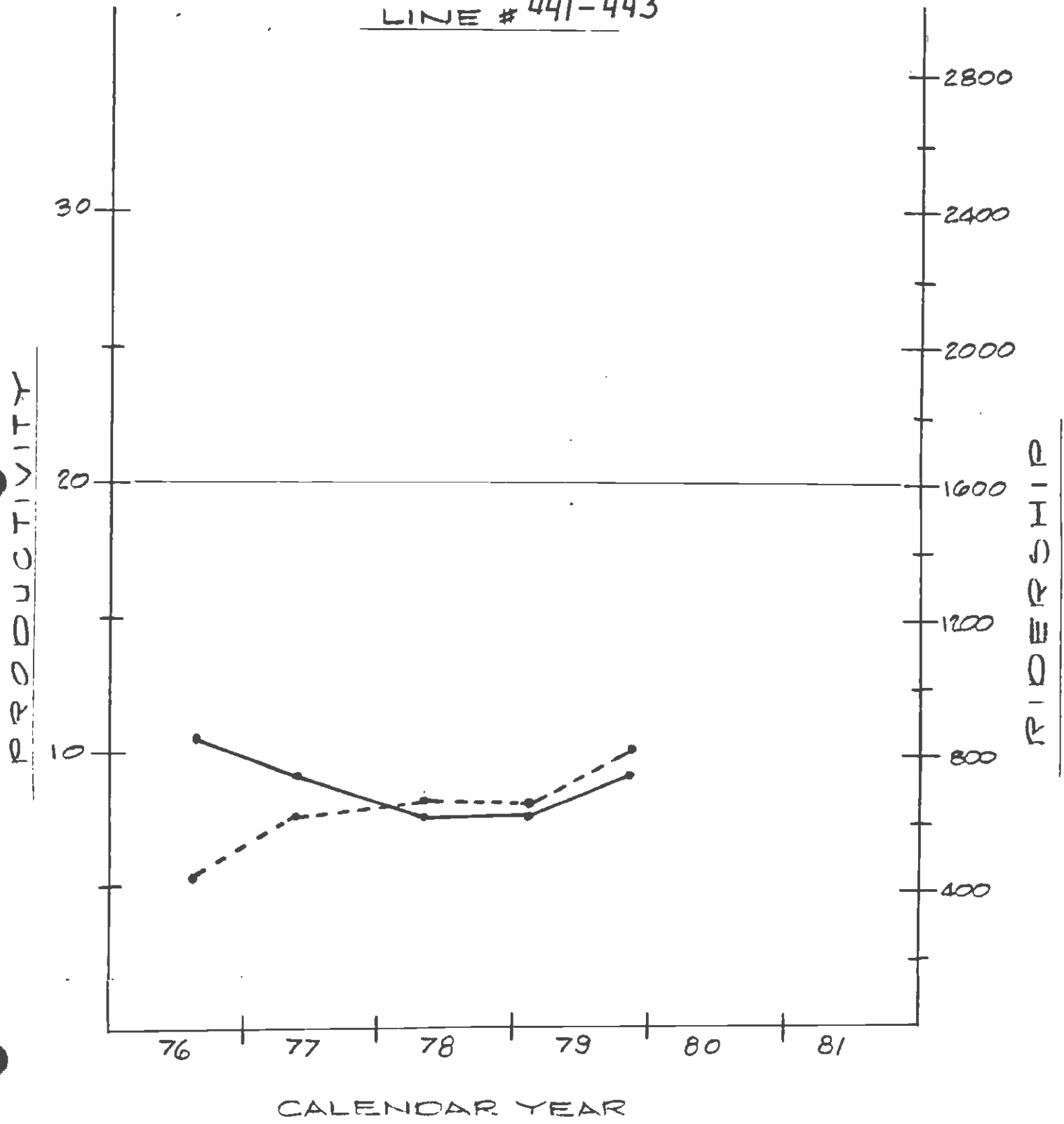
The low density, the length of the line, and the hourly service may be the cause of low productivity.

Recommendation

1. Establish a timed transfer location at Eastland Shopping Center and West Covina Shopping Plaza.
2. Extend 443 to Rio Hondo College on Workman Mill Rd. and combine this line with Line 821.
3. Extend 441 to Puente Hills Mall via Los Robles Ave. and Wedgewood Dr.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE # 441-443



PPBH - - - - -

PASG. —————

Line 451 (Garey Ave.-Foothill Blvd.)

Line 453 (Indian Hill Blvd.-Reservoir St.)

Service and Location

The two lines form a circular path around the Pomona Community at a 30-minute headway. Line 451 operates County Road and Garey Avenue to Baseline Road and Indian Hill Blvd. Line 453 completed the circle from Indian Hill Blvd. back to County Road via Reservoir Street.

Productivity

The productivity increased from 10.7 ppbh (130 passengers) on 11-3-76 to 17.0 ppbh (1387 passengers) on 3-30-79 riding check. However, it decreased to 15.0 (1216 passengers) on 1-10-80.

	<u>1976</u>	<u>1977</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
ppbh	10.7	10.2	17.0	15.0	16.9
pssgrs	1360	970	1387	1216	1117

Modification

In 1976, the line was implemented with a 20 minutes headway. Due to the overservicing of Lines 445 and 453 on 6th Street, Line 453 was rerouted onto Indian Hill Blvd. at the end of 1976. In addition, the headway was changed to 30 minutes.

In 1978, minibuses were used (20 seats per bus). The implementation of terminal 23 that year was also an economy saver because the equipment no longer had to be deadheaded to and from El Monte station.

A turnaround loop (Garey Ave.,-Olive St.-Towne Ave.) was implemented in 1980 and that also saved equipment.

Reason for Low Productivity

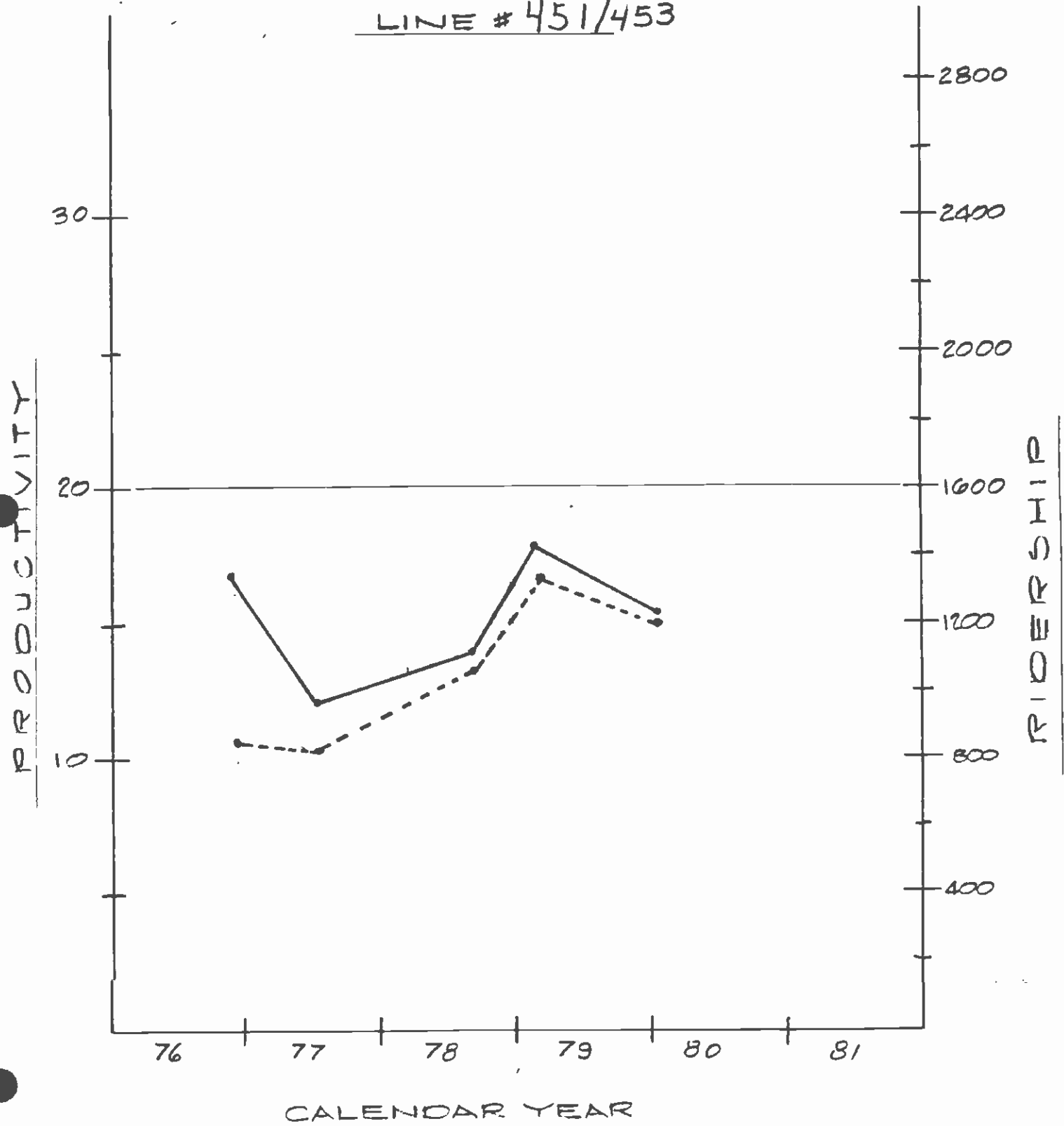
The low productivity may be a result of the densely populated area and no major centers of attraction in the Pomona Valley.

Recommendation

See Line 452-454 for recommendation.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE # 451/453



PPBH - - - - -

PASG. —————

Line 452 (Arroyo Ave.-No. White-San Bernardino Ave.)

Line 454 (W. Ninth St.-S. Towne-Arrow Highway)

Service and Location

Lines 452/454 operates a local circulation service on a 30-minute headway Monday through Friday. Line 452 operates from Murchison Ave. and Ridgeway St. to Indian Hill Blvd. and Arrow Highway. Line 454 operates Arrow Highway and Indian Hill Blvd. back to Valley Blvd. and Ridgeway.

Productivity

	<u>1976</u>	<u>1977</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
ppbh	6.1	2.0	13.3	11.5	8.8
pssgrs	940	200	899	779	590

Modification

This line was implemented in 1976 with a 20 minute headway. In 1977 the headway was increased 30 minutes; the night service was cut; and a turnaround loop was implemented which saved a bus.

Reason for Low Productivity

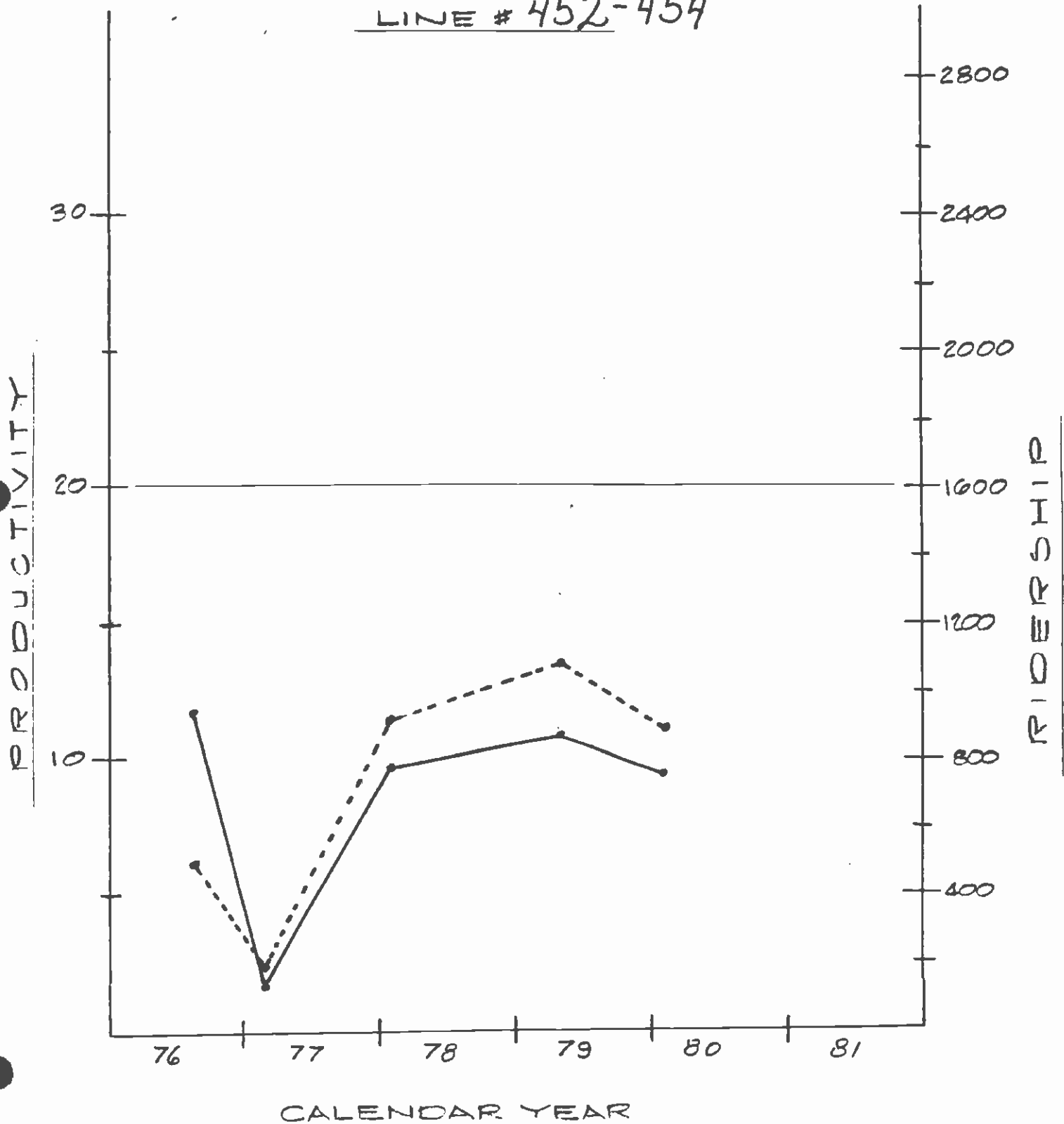
The line operates in a low density area which may be one of the reasons for the low productivity.

Recommendations

1. Extend 452 over San Bernardino Ave. and extend 454 over Arrow Hwy to Montclair Plaza.
2. Extend the 452 to Cal State Polytechnic University.
3. Establish a time transfer point at Mission and Garey. This would be a transfer involving Lines 440, 451, 452, 454, and 480.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE # 452-454



PPBH

PASG

—————

Line 520 (Bus Express Employee Program (BEEP))

Service and Location

Seven (7) buses operating on 14 variable length routes, serving three (3) staggered shift combinations. The routes range from Palos Verdes to Washington Blvd. and Western Ave.

Productivity

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
pssgrs	60	120	220	160	225

Modification

The BEEP service was an UMTA funded Demonstration Project implemented to field test and demonstrate the feasibility of operating a multi-trip subscription service within the El Segundo/Aerospace Employment Center.

Originally, there were 14 lines and 7 buses servicing the BEEP area. With lines extending from Palos Verdes to Washington Blvd. and Western Ave.

However, routes extending across Palos Verdes Dr. S. were cut back to Palos Verdes Dr. N. and trips along Sepulveda Blvd. were cancelled.

As of June 1981, the BEEP program was no longer funded by UMTA. It was considered part of the regular RTD lines and is now subsidized by the District.

Planning staff is now looking into the reasons for low productivity as well as making recommendation to modify the program.

Line 821 (Cerritos-Whittier-Pico Rivera)

Line 831 (Lakewood-Paramount-Pico Rivera)

Service and Location

These two lines operate a 60-minute headway Monday through Friday. Line 831 goes from Candlewood St. and Lakewood to Beverly Blvd. and Durfee Ave. Line 831 starts at Beverly Blvd. and Durfee Blvd. and complete the horseshoe at the Los Cerritos Center on 184th St. and Gridley Rd. in Cerritos.

Productivity

The ppbh has been on the increase from 12-8-76 (830 passengers) at 12 ppbh to 19.1 ppbh (1078 passengers) on 10-31-78. The latest check made (1-10-80) was taken on a rainy day and the productivity was approximately 18.0 ppbh (1014 passengers).

	<u>1976</u>	<u>1978</u>	<u>1980</u>
ppbh	12.0	19.1	18.0
pssgrs	830	1078	1014

Modification

The City of Pico Rivera requested that service on Passons Blvd. be assumed by Montebello Line 60 and SCRTD Line 831 be relocated to Paramount Blvd. in the area north of Telegraph Rd. This change was approved and implemented March 1981 and it is not expected to have any significant impact on ridership.

Reason for Low Productivity

The route of Line 821 is very circuitous and is duplicated by other lines in Whittier.

Recommendation

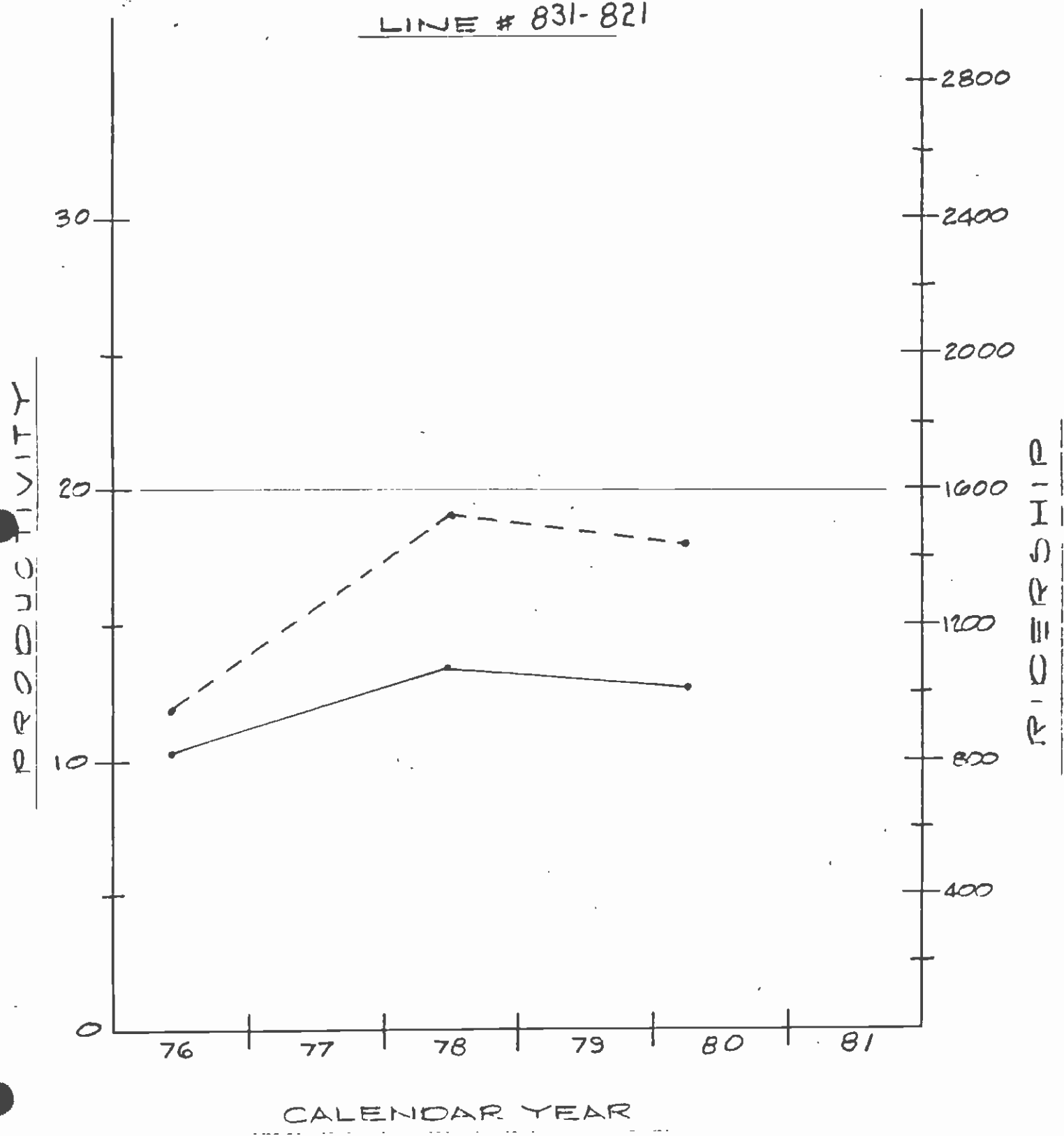
1. Line 821 and 831 should be divided into separate lines.
2. Line 821 be extended over Workman Mill Rd. and tied into Line 441.

3. Line 831 should be extended over to Beverly Blvd. and Montebello Blvd. to tie into Line 431. The combination of Lines 431 and 831 would require approval from Montebello Municipal Lines.

These changes would provide for much needed direct service between the San Gabriel Valley and the Whittier mid cities sectors.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE # 831-821



PPBH - - - - -

PASG. _____

Line 825 (Hawaiian Gardens-Norwalk-Whittier)

Service and Location

This line operates a 60-minute service Monday through Friday from Hawaiian Gardens to Whittier Quad Shopping Center.

Productivity

The productivity had continuously increased from 5.9 ppbh (380 passengers) on 7-3-76 to 21.0 ppbh (662 passengers) on 5-21-79. However, the last riding check 2-2-80, which was done on a rainy day, indicates that productivity had declined to 17.6 ppbh (520 passengers).

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
ppbh	10.0	14.5	18.0	21.0	17.6
pssgrs	625	800	550	622	520

Modification

In June 1976, the line was rerouted along Beach Blvd. between Lincoln and Las Palmas Aves., removing service from the Knotts Berry Farm.

Reason for Low Productivity

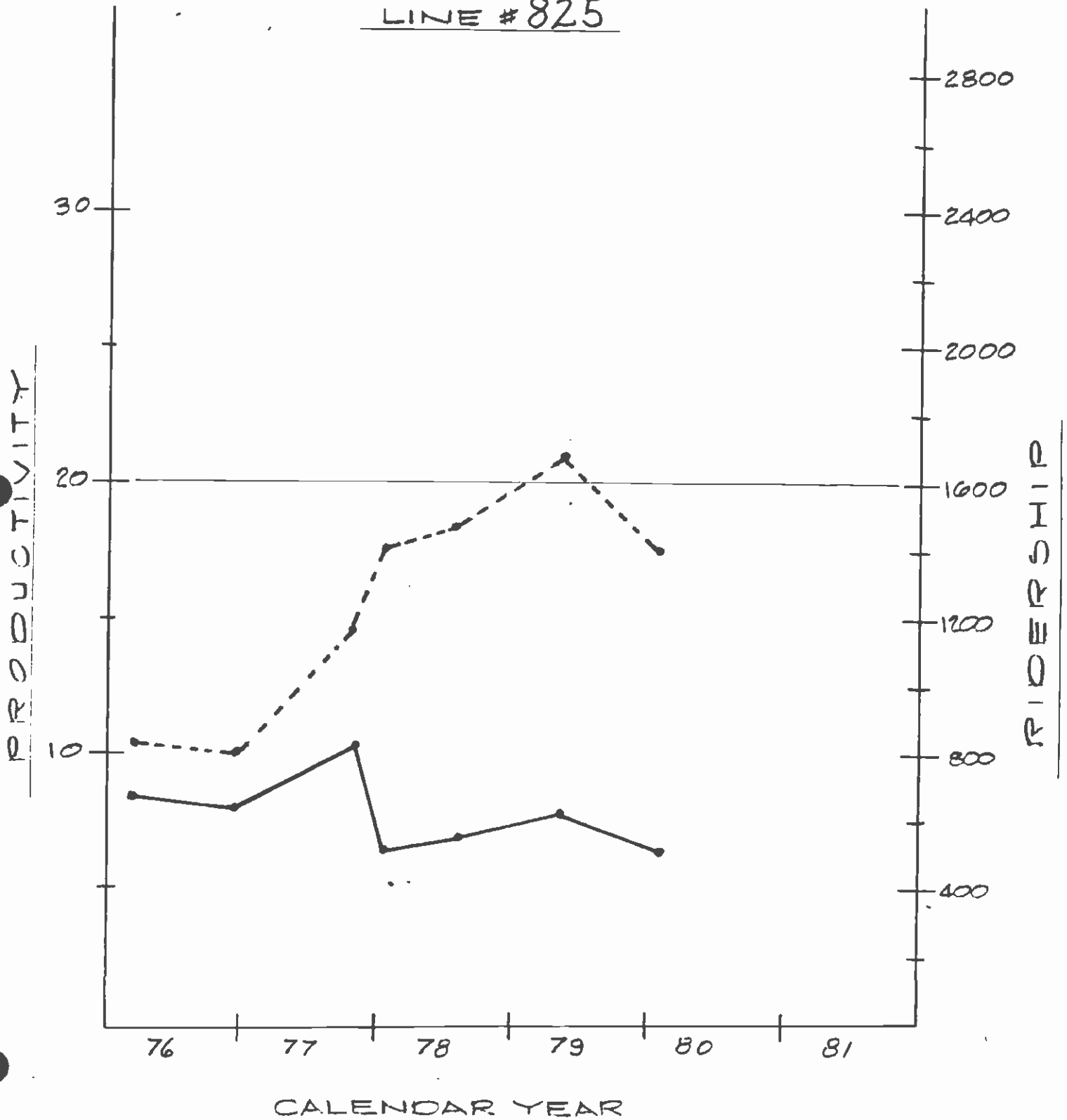
The fact that Norwalk Transit District duplicates parts of this line as well as charging a cheaper fare may add to the low productivity of the line.

Recommendation

See Line 827 for recommendation.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE #825



PPBH

PASG.

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Line 827 (El Monte-Cerritos-Seal Beach)

Service and Location

The line has a 40 minute headway Monday through Friday. It covers 22 miles in one direction from El Monte Station to Seal Beach.

Productivity

The line increased from 4.5 ppbh in 1976 to 18.3 on 1-11-79. However, ridership did decline on the 9-3-80 riding check (14.7 ppbh).

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
ppbh	4.5	9.8	15.5	18.8	14.7
pssgrs	640	1240	680	820	1280

Modification

In 1976, Line 827 was rerouted via Studebaker Rd. instead of Woodruff Ave. The frequency of service was changed at that time from a peak 20'base 30' to a straight 30 minute service. This line was extended from its northern terminal in Whittier to El Monte station when the San Gabriel Valley SIP was implemented.

In 1977, Line 827 lost Saturday and Sunday service and all evening trips.

The most recent modification is the extension to Seal Beach. This line was extended along South St., Norwalk Blvd., Los Alamitos Blvd. and Seal Beach Blvd. to Westminster Ave. in the City of Seal Beach. The frequency of service was changed from 30 minutes to 40 minutes when this route extension was made in June 1980. The frequency change enabled the District to make this modification without increasing the equipment.

Reasons for Low Productivity

This line was implemented in 1976 with a 20 minute peak and 30 minute base. From 1976 to present, this line had a great deal of fluctuation in the frequency of service. This has made the line very unstable and has caused passengers to continuously adjust their trip patterns. Another reason for low productivity is the competition in service and fares from the Norwalk Transit Service.

Recommendation

1. Exchange portions of Line 825 and 827 in order to make a faster trip time for regional riders as well as to make a more grid like system for easier travel.

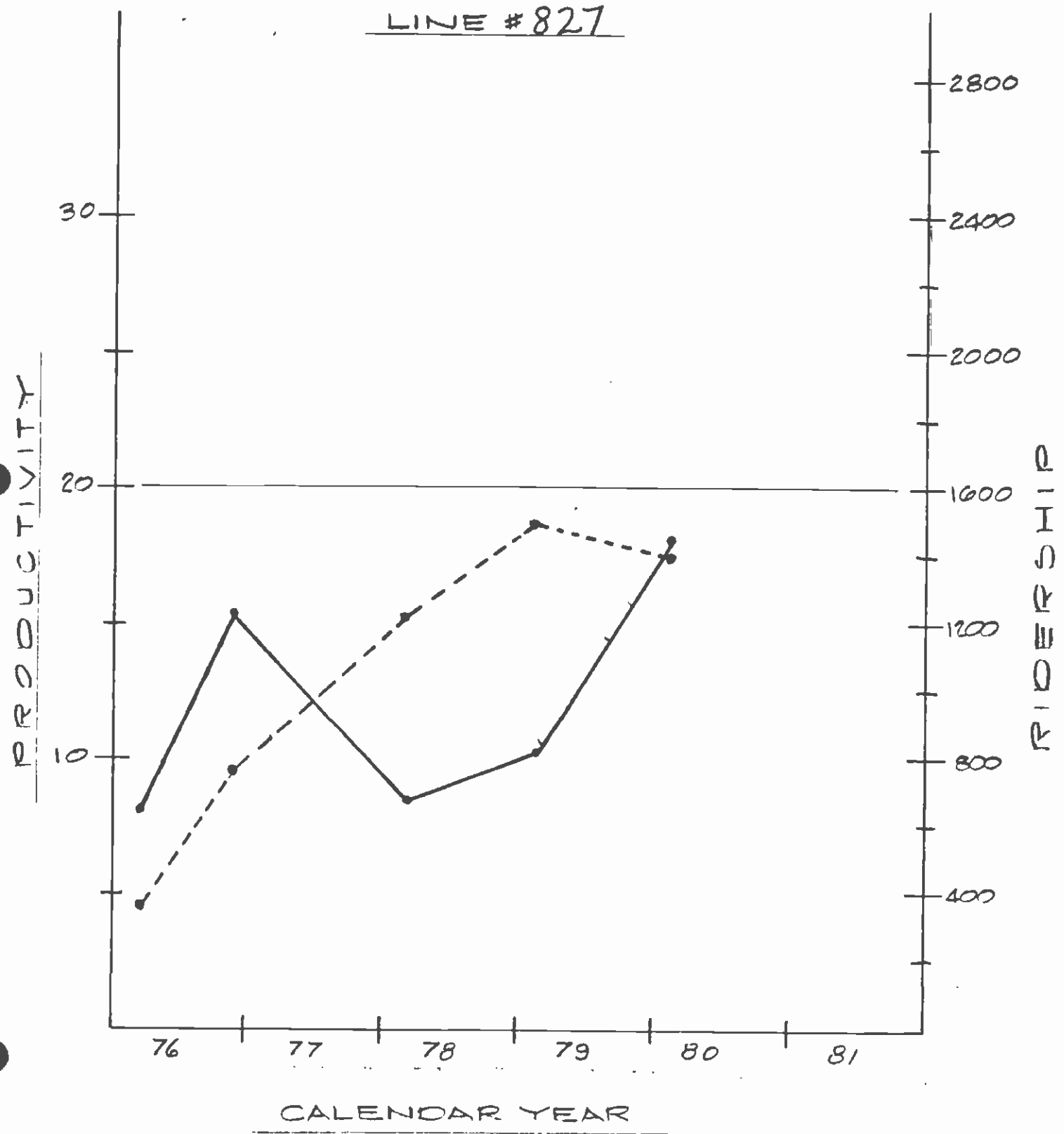
Line 827 - Seal Beach Blvd. to Norwalk Blvd. - portion of Line 825 from Carson and Pioneer to Broadway and Washington, then continue regular route of line.

Line 825 - regular route of line from Whittier Blvd. to Broadway and Washington; portion of Line 827 from Broadway and Washington Ave. to South St. and Pioneer Blvd. where it would terminate.

2. Reroute former Line 825 service on Pioneer Blvd. by Los Cerritos Center via 183rd St., Gridley Rd. and South St.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE #827



PPBH - - - - -

PASG. —————

Line 861 (Yukon Ave.-Manhattan Beach Blvd.)

Location and Service

This line operates a 45-minute headway Monday through Saturday, from 120th St. at Hawthorne Plaza to Highland Ave. and 15th St. in Manhattan Beach.

Productivity

The productivity did increase from 11.4 ppbh (870 passengers) 4-15-77 to 17.3 ppbh (506 passengers) on 5-13-80. However, it was not enough to remove the line from the low productivity group.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
ppbh	9.9	11.4	17.5	16.0	17.3
pssgrs	760	870	570	480	506

Modification

Line 861 was established in June 1876 as part of the South Bay SIP. The original route extended south of the current west terminal in Manhattan Beach to the Del Amo Center. As part of the 1977 Service Economies Program service south of Manhattan Beach was assumed by a rerouted Line 607.

In addition, in December 1977, the line was extended along Manhattan Beach Blvd. into the Manhattan Beach Civic Center (this connected Manhattan Beach Civic Center and El Camino College) and the frequency was also reduced from 30 to 45 minutes.

Reason for Low Productivity

Line 861 north of Manhattan Beach Boulevard is duplicated or paralleled within 1/2 mile by two more frequent lines.

Recommendation

It is proposed that the service north of Manhattan Beach Boulevard be discontinued and that the route be extended eastward along Redondo Beach Boulevard at Crenshaw Boulevard and tied into Line 844 in Compton. Service could be provided on this combined line at 40-minute frequency at no additional cost. This change would require the concurrence of the Gardena Transit Lines. In addition, this would allow Line 114 to be cancelled as 90% of its route would thus be duplicated or very closely paralleled by more frequent service.

Line 869 (Palos Verdes Peninsula-Redondo Beach-Inglewood)

Location and Service

This line operates a 30/60 minute frequency Monday through Saturday. A 30-minute headway is provided on the trunk portion of the line with 60-minute frequencies on the two Palos Verdes branches.

Productivity

The productivity on this line has increased continuously since 8-17-76 from 7.2 ppbh (850 passengers) to 19.1 (1951 passengers) on 5-4-79.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
ppbh	7.2	11.5	15.5	19.1	18.9
pssgrs	850	1200	1600	1951	2032

Modification

The community is quite actively working with the District to modify the line. The shopping plaza under construction southeast of the intersection of Drybank and Deep Valley and the proposed library in that area are expected to greatly increase ridership for the line.

Reason for Low Productivity

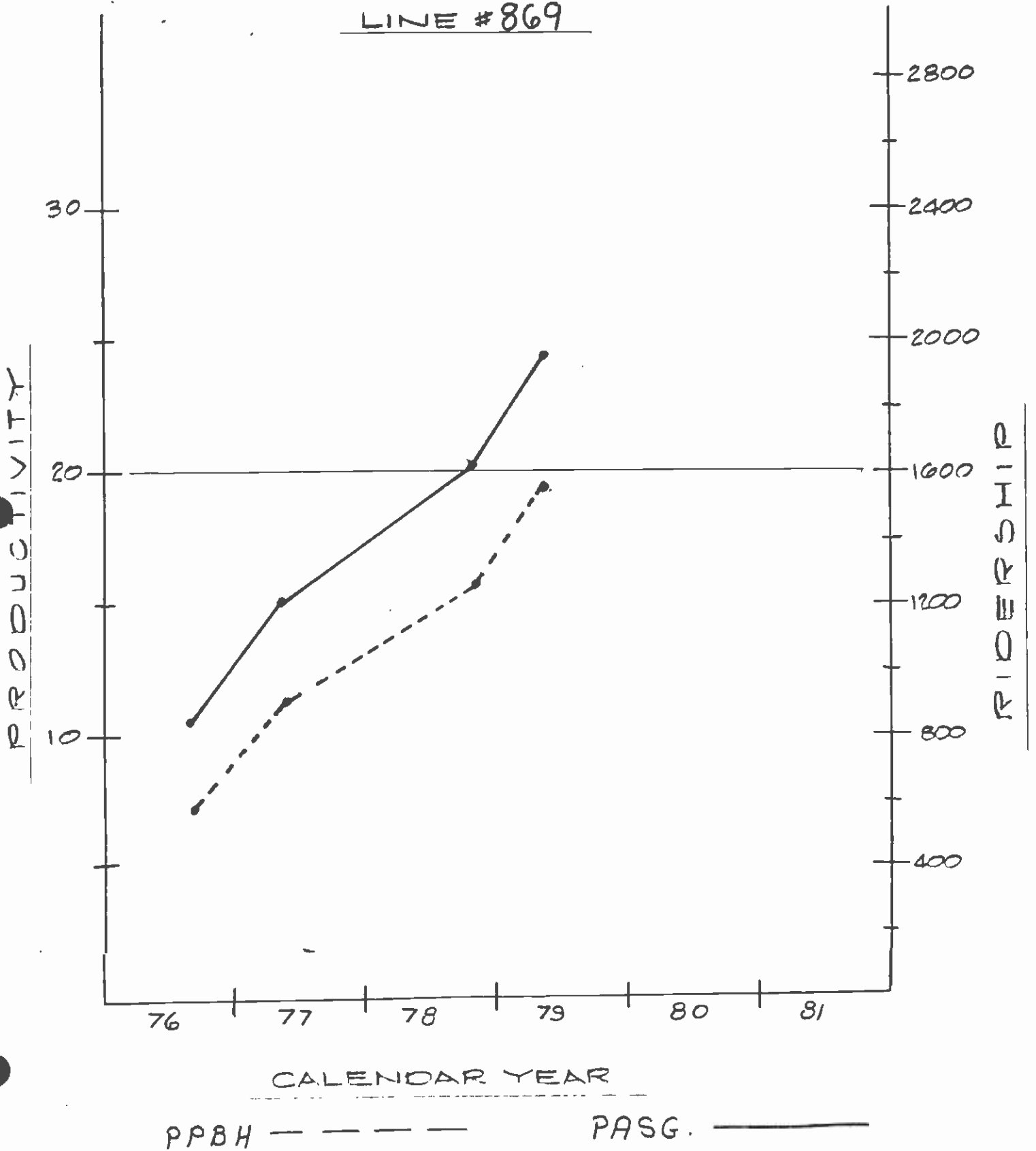
The low productivity may be due to low population density and length of the route.

Recommendations

1. Establish a time transfer location at Hawthorne Boulevard and Manchester Avenue.
2. Cancel southbound 6:30 am trip and northbound 6:57 pm trip.
3. Renumber this line with each branch having its own number.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE #869



Line 874 (Ports O'Call)

Location and Service

This line operates along with Line 872 to provide community circulation system in San Pedro. Line 872 operates a 30 minute headway seven (7) days a week with a weekend alternate route into Ports O' Call. Line 874 provides a 30-minute frequency service over a short one-way loop and passes by Ports O' Call on weekdays only.

Productivity

The productivity of Line 872 has continuously increased from 11.6 ppbh (344 passengers on 3-22-78 (a rainy day) to 24.5 ppbh (704 passengers) on 6-27-80. While the productivity on Line 874 has increased from 7.3 ppbh (102 passengers) on 9-25-78 to 11.5 ppbh (160 passengers) on 4-17-80.

	<u>1978</u>	<u>1979</u>	<u>1980</u>
ppbh	7.3	9.5	11.5
pssgrs	102	120	160

Modification

Line 872/4 were combined lines. However, with the separation, Line 874 became a low productivity line. Line 872 seems to be higher in productivity because of the ridership to the Park Western Plaza.

Reason for Low Productivity

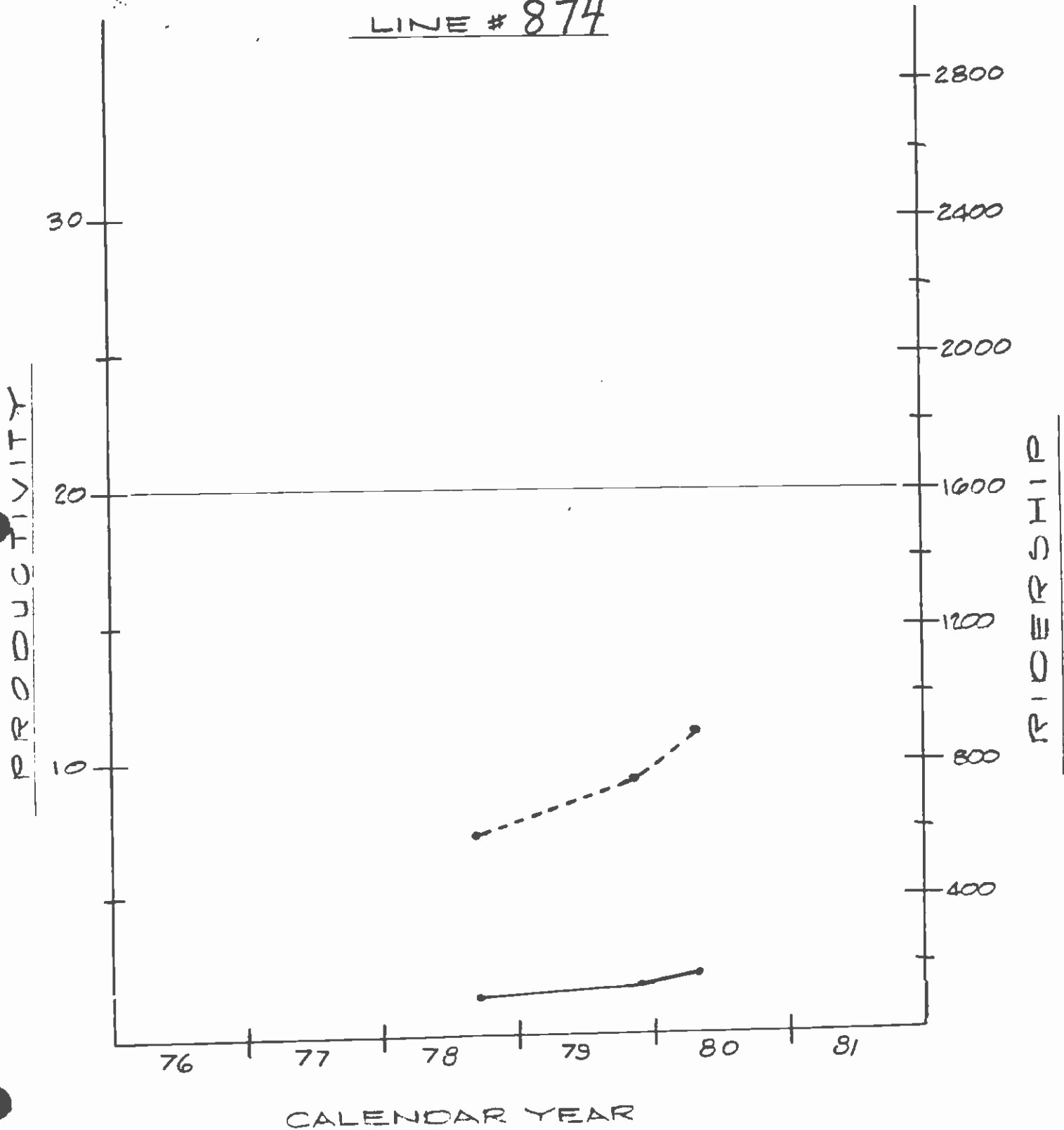
Line 874 operates over a 3.5 mile route. As the District regular fare has risen to 65 cents, fewer discretionary riders are willing to pay \$1.30 for a short round trip. Because of this, generally only pass and discount riders use this line.

Recommendation

Line 874 should be cancelled and that Line 872 operate its weekend route seven days a week. This would still provide service to all but 15% of the 160 Line 974 boardin passengers.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE # 874



PPBH - - - - -

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Analysis of Express Lines

As a result of the difficulty in measuring productivity of the Express Lines, the format of this section will have an additional heading, seating capacity. This additional heading will cover the seating capacity used on the express portion of the trips only.

Line 123 (Westlake-Woodland Hills-Los Angeles)

Service

This line has one trip daily in each peak direction.

Productivity

The riding checks have been from 10.9 ppbh on 5-5-77; 6.1 ppbh on 12-12-78 to 13.6 ppbh on 10-9-80. However, the line would have to carry 102 passengers a day to obtain 20.0 ppbh. This would mean 51 passengers in each direction. On a 47 passenger capacity bus, this would mean four (4) standees (for 90 min.) daily.

	<u>1977</u>	<u>1977</u>	<u>1978</u>	<u>1980</u>	<u>1980</u>
ppbh	10.9	6.8	6.1	8.3	13.6
pssgrs	60	52	46	63	70

Seating Capacity Used

There is an average of 30 passengers per trip that used the freeway portion of the service. This is about 61% of the seating capacity.

Modification

Line 123 was implemented in November of 1976.

There was a modification of the line in 1979. It was rerouted into the Calabasas area of Los Angeles County in order to provide more direct public transportation to a new residential development in the area.

Reasons for Low Productivity

Some of the reasons for low productivity are distances travelled and extensive deadhead time.

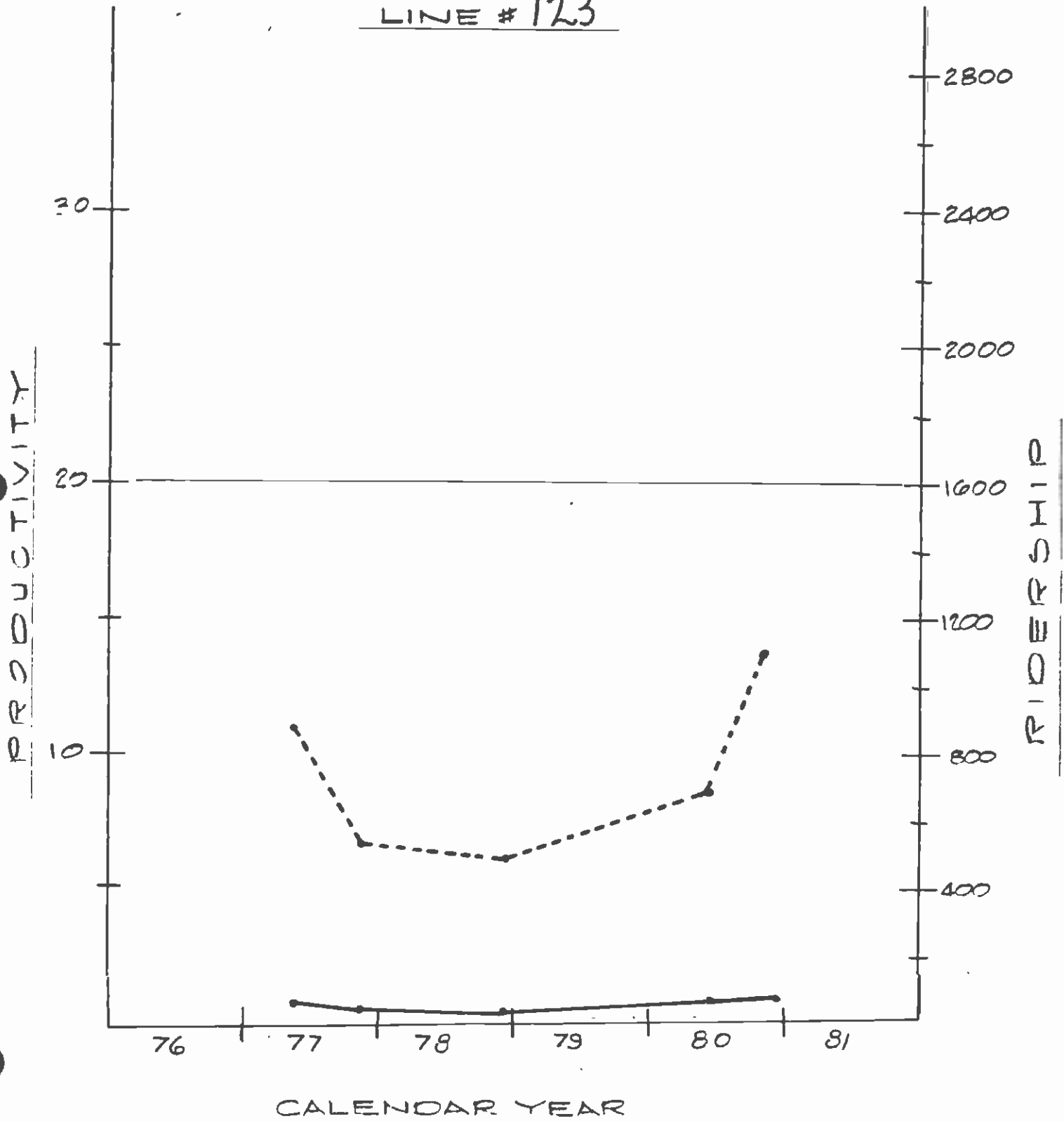
Recommendations

1. In order to make this a more viable service, at least three round trips should be made at about 20 minute headways. It was recommended that two trips be added to Line 123.
2. Intermediate stops should be included at Reseda and Van Nuys Boulevard to pick-up and discharge passengers. Van Nuys stop would connect Line 88 for transfer connection into Mid-Valley, Westwood and Los Angeles Airport. Reseda Boulevard would be connected with the 35 Line for transfer into the Mid-Valley.

An alternative would be to cancel Line 123 and to add a morning trip to Line 161. Establish a connection location for Line 161 and 716 in order to service Los Angeles bound passengers.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE # 123



PPBH - - - - -

PASG. —————

Line 456 (Long Beach Freeway Express)

Location and Service

This line operates a 10 minute peak hour service (AM & PM) and a 30 minute base service from Golden Shore Boulevard to downtown Los Angeles.

Productivity

The productivity has been over 20.0, 3 years out of the past 5 years.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1981</u>
ppbh	23.4	20.5	19.9	22.5	19.0
pssgrs	3110	2640	2491	2906	2588

Modification

In order to adhere to the new numbering system, Line 36 was changed to new Line 456. The route was mainly the same but there are additional stops in downtown Los Angeles.

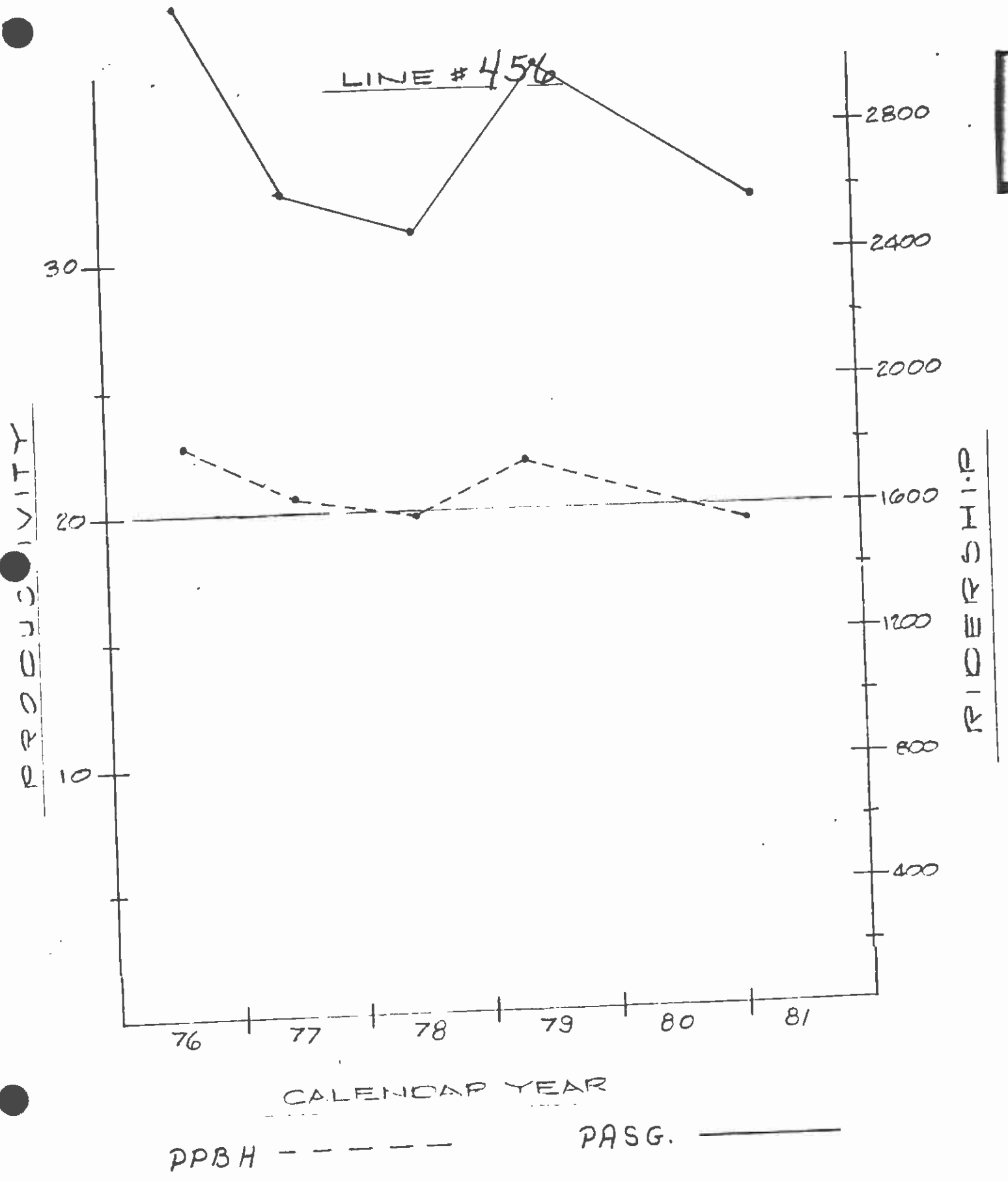
Reason for Low Productivity

The ridership could be low because of the change in the bus numbering system. Passengers may not be familiar with the new line number.

Recommendation

It is recommended that the line be monitored for the next year in order to determine ridership patterns of the passengers.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES



Recommendation

It is recommended that the eastern portion of Line 494 from Myrtle and Huntington Avenues be cancelled because of the low ridership in that area (14 passengers per trip).

Since Lines 493 and 494 have the same route from Los Angeles to Huntington and Myrtle Avenues, it is recommended that these lines be combined and that a fifteen minute service be established during peak hours on Line 493.

This change would have a negative impact on fifty-five (55) passengers now using the eastern portion of this line. However, they would be able to transfer to and from Line 440 which covers most of the Line 494 and operates on a 30 minute frequency.

Line 492 (Los Angeles-So. Arcadia-San Dimas via Arrow Highway)

Service

This line operates four peak trips in the AM and PM Monday through Friday and one reverse AM trip.

Productivity

According to the line rankings, the productivity was 16.7 ppbh on 5-13-76; 12.7 ppbh on 11-16-77 and raised to 16.1 ppbh on 5-2-80.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
ppbh	16.5	12.8	12.9	15.0	16.1
ppsgrs	310	270	280	330	403

Reasons for Low Productivity

This line travels along Arrow Highway which has large areas of very low population density. Also both ends of the line are long distances away from Division 9 which results in large amounts of out-of-service time.

Modification

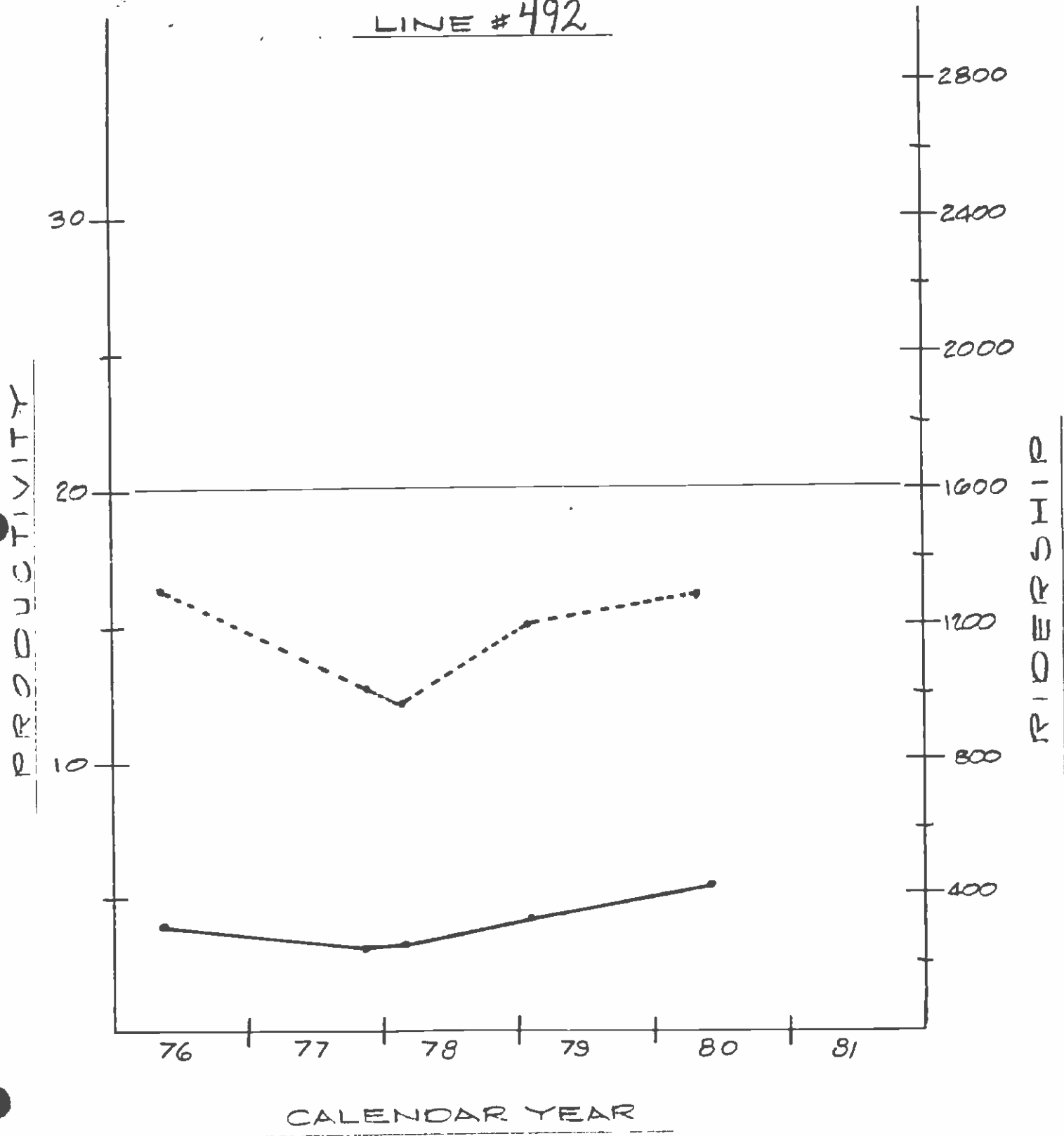
This line and also Line 449 (Los Angeles-Monrovia-Glendora via Foothill Blvd.) increased largely due to the extension in 1977. These two lines were rerouted to Wilshire Boulevard and Western Avenue with the idea to relieve the ridership on Line 480 (Los Angeles-El Monte-West Covina-Pomona). The route was shortened in June 1980 to Wilshire Boulevard and Union Avenue.

Recommendation

If the peak direction ridership has remained the same since the last check, this line will be over the 20 ppbh mark. This is because the off-peak direction service has been cancelled which has reduced the total vehicle hours. This line should be monitored to determine if ridership remains the same.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE # 492



PPBH - - - - -

PASG. —————

Line 494 (Los Angeles-Monrovia-Glendora via Foothill Blvd.)

Service and Location

The line has four (4) AM for four (4) PM trips, Monday through Friday, from Los Angeles to Glendora.

Productivity

It had a 15.3 pppbh on 5-11-76 and had increased to 21.2 by 10-30-78. However, the most current check indicates that this line had decreased to 19.4 ppbh. The line increased in 1978 largely because of the extension of Line 494 and Line 492 to Wilshire Boulevard and Western Avenue in 1977. In order for the line to reach 20 ppbh again, it would need approximately 10 more passengers (total 350).

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1980</u>
ppbh	15.3	14.2	21.2	19.4
pssgrs	260	260	251	340

Seating Capacity

There is an average of 21 passengers per trip that used the freeway portion of the service. This is about 47% of the seating capacity of a 47 capacity bus.

Modification

This line was implemented in November of 1975. It was extended to Wilshire Boulevard and Western Avenue in December of 1977. This extension was to help alleviate the overloads that occurred on Line 480 between Wilshire Boulevard and Western Avenue and the El Monte Station. In 1979, one trip was added and in June 1980, the line was cut from Wilshire and Western to Union and Wilshire.

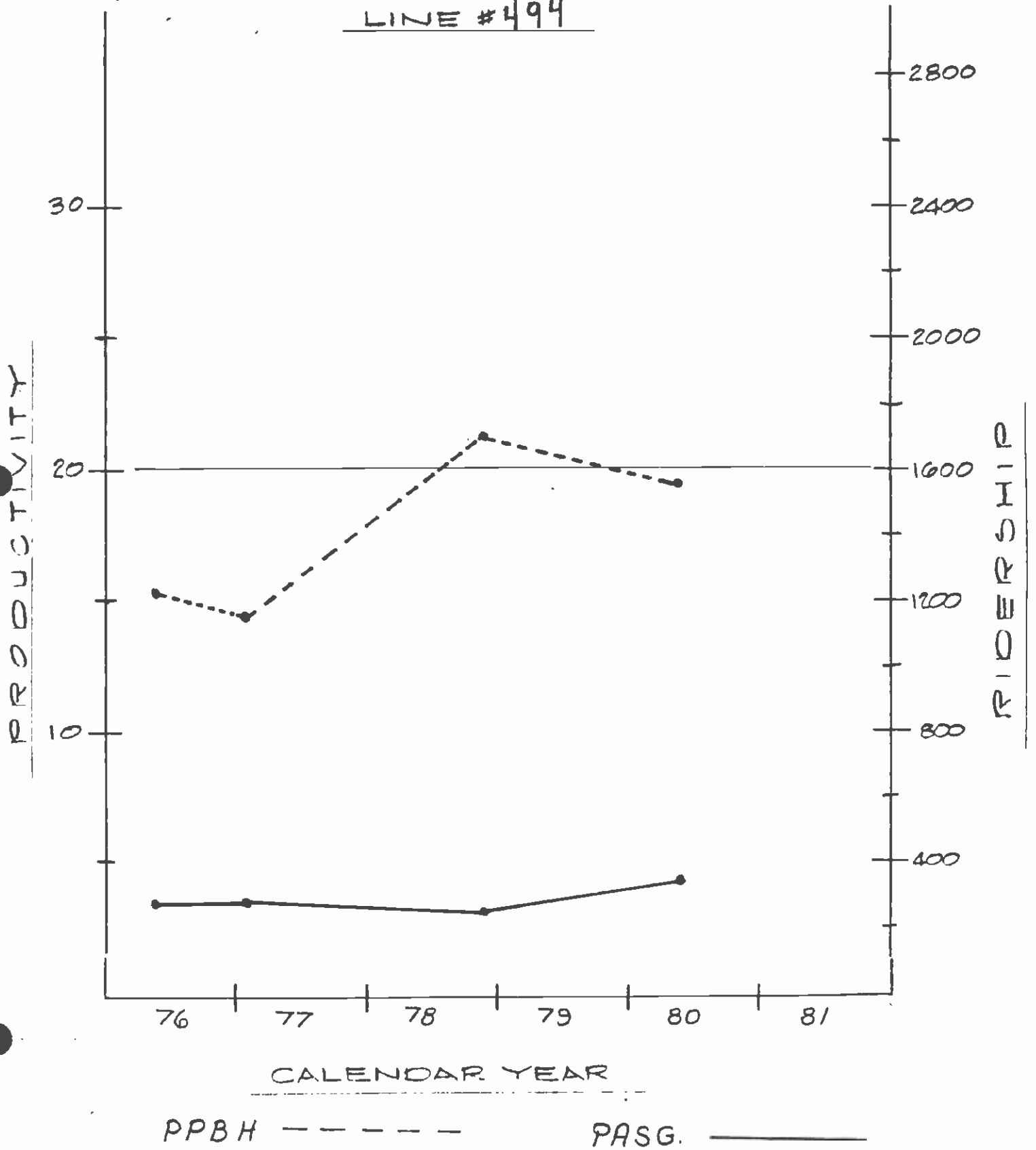
Reasons for Low Productivity

This line is local from Glendora to El Monte Station covering a densely populated area. The line is also duplicated by Lines 440, 441 and 493 between El Monte Station and Glendora. It is duplicated by Lines 480, 481, 760, 762, 764 from El Monte Station and Los Angeles.

However, the line's ridership is expected to increase over the 20 ppbh mainly because of the overload in traffic on Wilshire Boulevard.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE #494



Line 512 (Crenshaw-Hollywood-Warner Center)

Service and Location

This line operates a peak hour express service Monday through Friday between Crenshaw and Warner Center.

Productivity

One (1) riding check was made since the regular line was implemented. this service carried 60 passengers which equals to 5.6 ppbh. In order to increase the ppbh to 20.0, the line would need to carry 214 passengers daily.

	<u>1980</u>
ppbh	5.6
pssgrs	60

Seating Capacity Used

Forty-two of the sixty passengers used the express portion of the trip. This was an average of 10.5 passengers per trip and 22% of the seating capacity.

Modification

This line started as a Blue Cross of Southern California Subscription service in 1977. It was part of an 18-month Corporation Relocation Program established to assist the employees with their transportation needs while they were establishing themselves at a new facility.

After the 18 months, Blue Cross decided to discontinue the program. However, the District proposed to maintain the service for the public by establishing a reverse commute freeway operation.

Reasons for Low Productivity

One of the reasons for the low ridership may be the lack of the public's awareness of the service.

The Planning Department is now in the process of studying Lines 512/514 in order to revitalize these lines.

Recommendation

See Line 514 for recommendation

Line 514 (Vermont-Hollywood-Warner Center)

Service and Location

This line operates a peak hour express service Monday through Friday from Vermont to Warner Center

Productivity

There has been one (1) riding check since the regular line was implemented. This service carried 113 passengers which was a 10.0 ppbh. An additional 113 passengers would bring the ppbh up to 20.0

	<u>1980</u>
ppbh	10.0
pssgrs	113

Seating Capacity

Ninety-nine of the one hundred thirteen passengers used the express portion of the trip. This was an average of 16.5 passengers per trip and 35% of the seating capacity.

Modification

This line like 512 started as a Blue Cross of Southern California Subscription service and changed to a regular line 18 months later.

Reasons for Low Productivity

One of the reasons for low ridership may be lack of public knowledge of the service.

Recommendation

(Line 512/514)

It is recommended that Line 512 be cancelled and that a transfer connection be made between Line 210 and 514 on Sunset boulevard. Passengers previously riding Line 512 may use Line 210 which duplicates Line 512 between Crenshaw Boulevard/Santa Barbara Avenue and Santa Monica Boulevard/Rossmore.

On Line 512, two out of 21 northbound passengers and sixteen out of 39 southbound passengers use the line for local service. Line 514 has the capacity to carry 19 N/B passengers and the 23 S/B passengers from Line 512.

According to the timetables, Line 210 is only scheduled for one to three minutes more running time than Line 512 between Sunset/Vine and Crenshaw/Santa Barbara. However, previous Line 512 passengers would have to leave ten minutes earlier in order to make connections with Line 514.

Line 601 (Sunset Boulevard Freeway Express)

Service and Location

This line operates eight express trips daily. It includes two peak and two reverse peak AM trip, two peak and two reverse peak PM trips.

Productivity

The productivity ranged from 12.9 ppbh 3-24-76 to 6.8 on 4-10-79. The last check increased to 11.8 ppbh on 2-22-80 which was 146 passengers. In order to increase productivity to 20.0, the line must carry 247 passengers daily.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
ppbh	12.9	9.7	8.5	6.8	11.8
pssgrs	168	116	105	84	146

Seating Capacity

In order to look at the productivity of the line, the trips have been divided into two groups, peak and reverse peak. (this is true for all lines with peak and reverse peak trips).

There is an average of 21 passengers per AM peak hour trip that uses the freeway portion of the service. This is approximately 45% of the seating capacity. Whereas the reverse AM portion carried 9.5 passengers per trip during the express portion of the service which is 20% of the seating capacity.

There is an average of 12 passengers per PM peak hour trips that uses the freeway portion of the service. This is approximately 26% of the seating capacity. Whereas the reverse PM portion carries 20.5 passengers per trip during the express portion of the service which is 44% of the seating capacity.

The variation in the number of riders by time period in the peak and off-peak direction indicates that passengers are using alternative lines or modes of travel to complete their daily trips. This means the schedule of Line 601 should be altered.

Modification

This limited service line was implemented in 1975. The boarding and alighting restrictions at 3rd and San Pedro Streets were removed on this line as well as the other 600 series lines in 1978.

As part of the phased implementation of the Sector Improvement Plan, the reverse peaks will be removed in September 1981.

Reason for Low Productivity

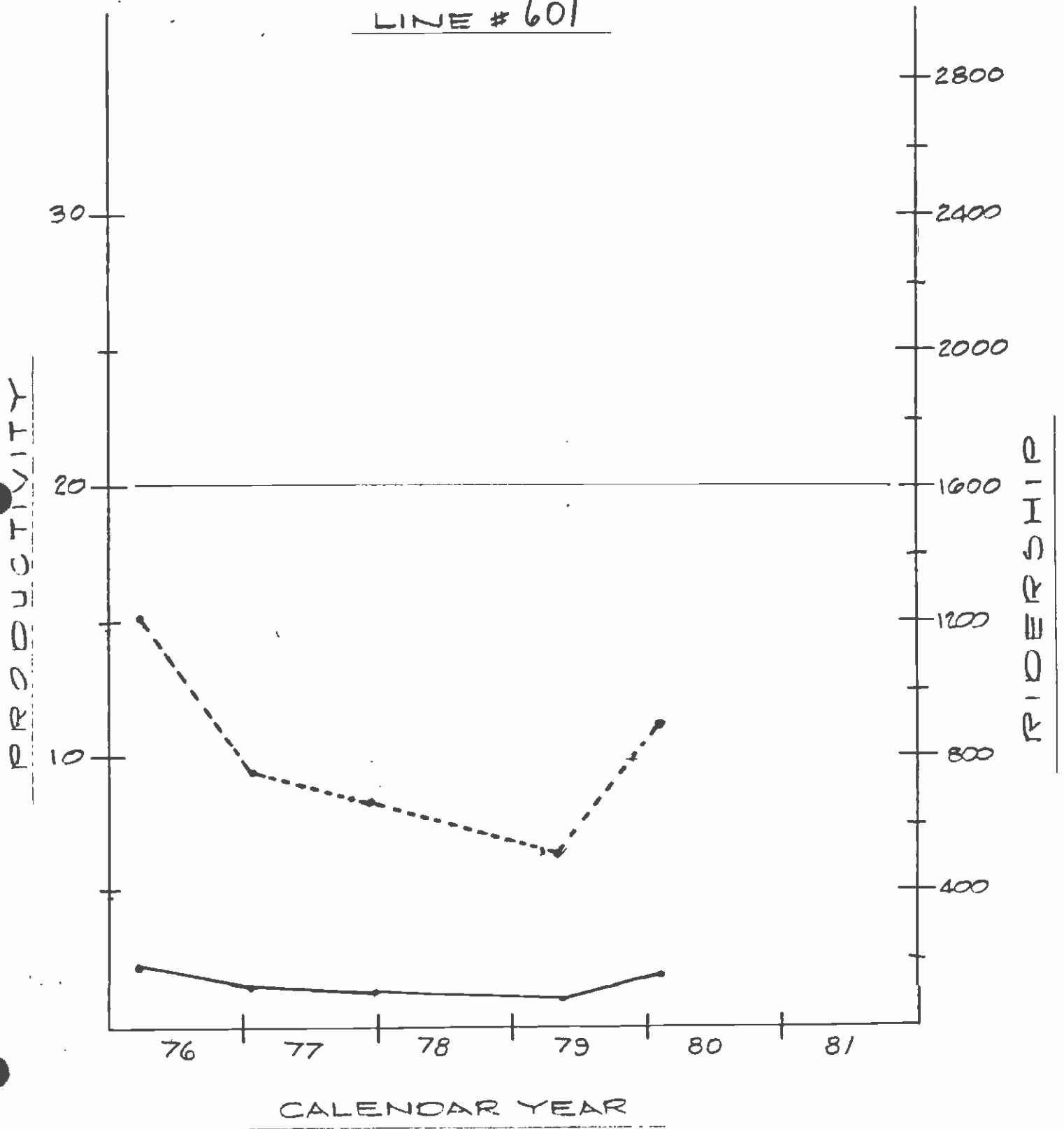
The low ridership is due largely to the current schedule and the duplication in service by Line 76. The current schedule has both morning inbound trips serving the 8:00 start time and the evening outbound trips leave 8th and Flower 8 minutes before the normal quitting time of 5:00 and 5:30 PM

Recommendation

Note Line 602 for recommendation

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE # 601



PPBH - - - -

PASG. ———

Line 602 (Beverly Glen Blvd.-Freeway Express)

Service and Location

This line operated five (5) peak and three reverse peak trips Monday through Friday.

Productivity

The productivity on this line has dropped from 18.1 ppbh on 1-31-77 to 16.1 on 2-13-80 (320 passengers). In order to increase productivity to 20 ppbh, the line would have to carry approximately 561 passengers.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
ppbh	6.1	13.5	12.3	9.5	11.3
pssgrs	195	320	293	237	320

Seating Capacity

There is an average of 28 passengers per AM peak hour trip that use the freeway portion of the service. This is approximately 60% of the seating capacity. Whereas, the reverse AM portion carries an average of 5 passengers per trip during the express portion of the service which is 11% of the seating capacity.

There is an average of 23.6 passengers per PM peak hour trips that use the freeway portion of the service. This is approximately 50% of the seating capacity. Whereas, the reverse PM portion carries 13.7 passengers per trip during the express portion of the service which is 29% of the seating capacity.

Reason for Low Productivity

The low productivity on this line may be due to the foreign line services and the low turnover rate. In addition, there are restrictions on the western portion of the line in order to avoid conflict with SMMBL.

Modifications

This line was implemented in 1976 and had a route change the same year.

The line originally began at Sunset and Beverly Glen Boulevards, operated along Pico Boulevard, Overland Avenue, National Boulevard, Motor Avenue and Manning Avenue to the Santa Monica Freeway and then proceeded into downtown Los Angeles.

The line was extended to its present terminus via Wilshire Boulevard, Westwood Boulevard, to LeConte Avenue, Gayle Avenue, Montana and Sepulveda to Church Lane.

Recommendation

(Line 601-602)

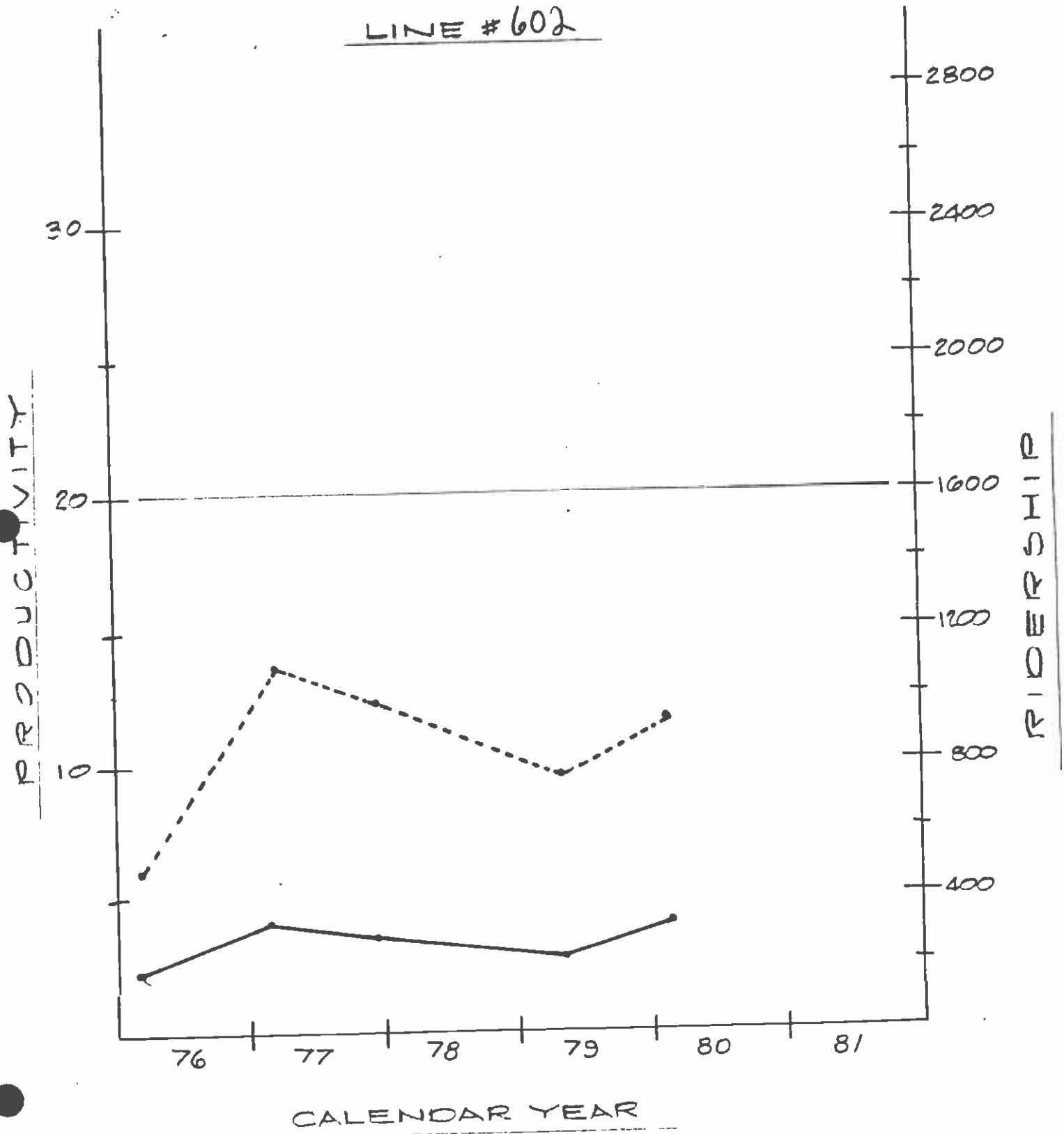
It is recommended that Line 601 be cancelled because of low rideship. In order to continue service to the 601 passengers, it is further recommended:

1. That Line 608 be extended on Sunset Boulevard and Chantaugua Boulevard to Pacific Coast Highway and regular route of line. This will serve some passengers from the 601.
2. That Line 602 be extended to Sunset and Bristle Circle. This will cover another portion of Line 601 leaving only nine passengers unserved.

This extension will cause an additional travelling time of fifteen minutes for those people using the extended service on Line 602 through Westwood versus Line 601.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE #602



PPBH - - - - - PASG. _____

Line 604 (Venice Boulevard Express)

Service and Location

This line operates peak hour express service Monday through Friday from downtown Los Angeles to Venice Beach along Venice Boulevard.

Productivity

The productivity for this line was 18.1 ppbh on 1-31-77 and decreased to 16.1 ppbh on 2-13-80 (624 passengers). This line would need approximately 750 passengers daily to increase ridership to 20.0 ppbh.

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
ppbh	18.1	18.1	15.3	16.1
pssgrs	832	727	559	624

Seating Capacity

The average AM and PM ridership on board the express portion of each trip is 26. This is approximately 55% of the seating capacity of the line.

Modification

In February 1978, the District was requested by the City of Los Angeles to cease operation over Venice Boulevard (south roadway) because of suspected weakening of the bridge by the heavy rains in January and February. At the same time, the District was advised by CALTRANS that future construction in the area of Venice Boulevard, both north and south roadways, could impede the operations along Venice Boulevard, south roadway, and suggested that the District consider an alternate routing in the area.

The adoption of permanent routing along Main Street and Venice Way was to eliminate the numerous turning movements in the congested area of Pacific and Windward Avenue, and the modification of the westbound routing was to provide a two-way operation in lieu of the present split routing for one block.

Recommendation

It is recommended that Line 604 be cancelled with expanded and modified Lines 605 and 606 providing this express service. Although Line 604 carries an average of 33 passengers per trip, it is duplicated in service by Line 75, which operates a peak 5 minute frequency. Line 604 passengers could transfer from Line 75 to Line 605 or 606 at Culver Boulevard.

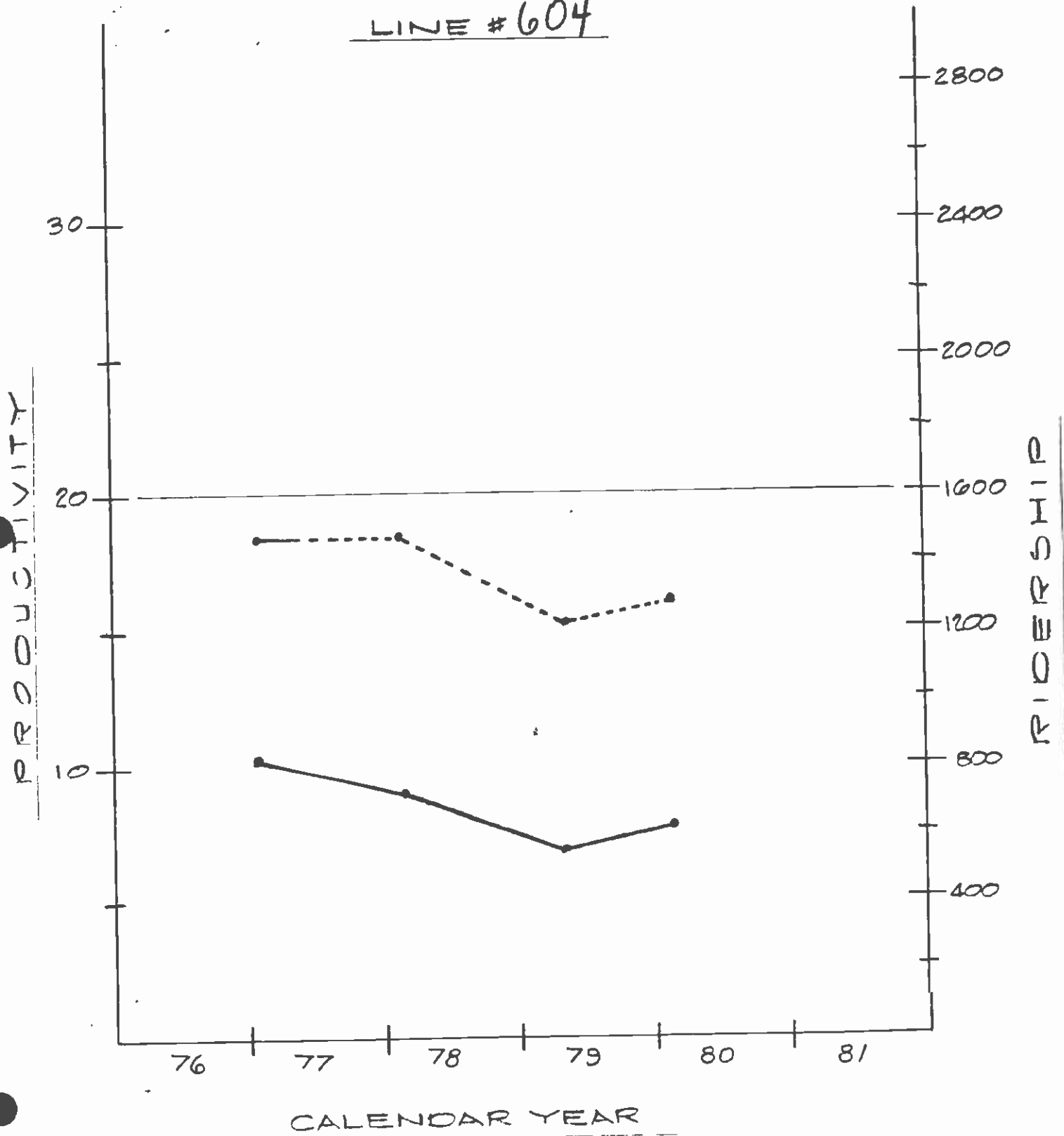
Line 604 Cancel Line

- Line 605
- 1) Extend western terminal to Main St. & Rose Ave.
 - 2) Reroute onto Culver Boulevard at Marina Expressway.
 - 3) Dovetail service with Line 606 to provide a trunk frequency of 7-1/2 minutes with 8 round trips on Line 605.
 - 4) Establish shortline for every other trip at Fiji and Admiralty Ways.

- Line 606
- 1) Dovetail service with Line 605 with 7 round trips.
 - 2) Establish shortline for every other trip at Culver Boulevard and Marina Expressway.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE #604



PPBH - - - - - PASG. - - - - -

Line 605 (Marina del Rey Freeway Express)

Service and Location

This line operates five (5) peak hour and two (2) AM and three (3) PM reverse peak hour service.

Productivity

The productivity on this line decreased from 10.6 on 3-24-76 to 9.5 on 2-13-80. However, the last two checks were on Easter Vacation day, and on a rainy day, respectively.

According to the last riding check there were 237 passengers; it would take approximately 499 passengers to increase productivity to 20.0.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
pphb	10.6	13.8	10.7	9.3	9.5
pssgrs	290	280	221	221	237

Seating Capacity

There is an average of 20 passengers in the AM peak, which is 42% of the seating capacity. Whereas there is an average of six passengers per trip in the reverse AM peak which is 13% of the seating capacity used. There is an average of 19.8 passengers on the peak trips which is 42% of the seating capacity. Whereas there is an average of 6 passengers per trip in the reverse PM peak which is 13% of the seating capacity used.

Modification

Line 605 was modified in 1978 to operate along Mindanao Way from the Marina Freeway to Alla Road, then along Alla Road to the three-way intersection of Alla Road, the Marina Freeway and Culver Boulevard, and then regular route of line. Service on the Marina Freeway between Mindanao Way and Culver Boulevard was deleted.

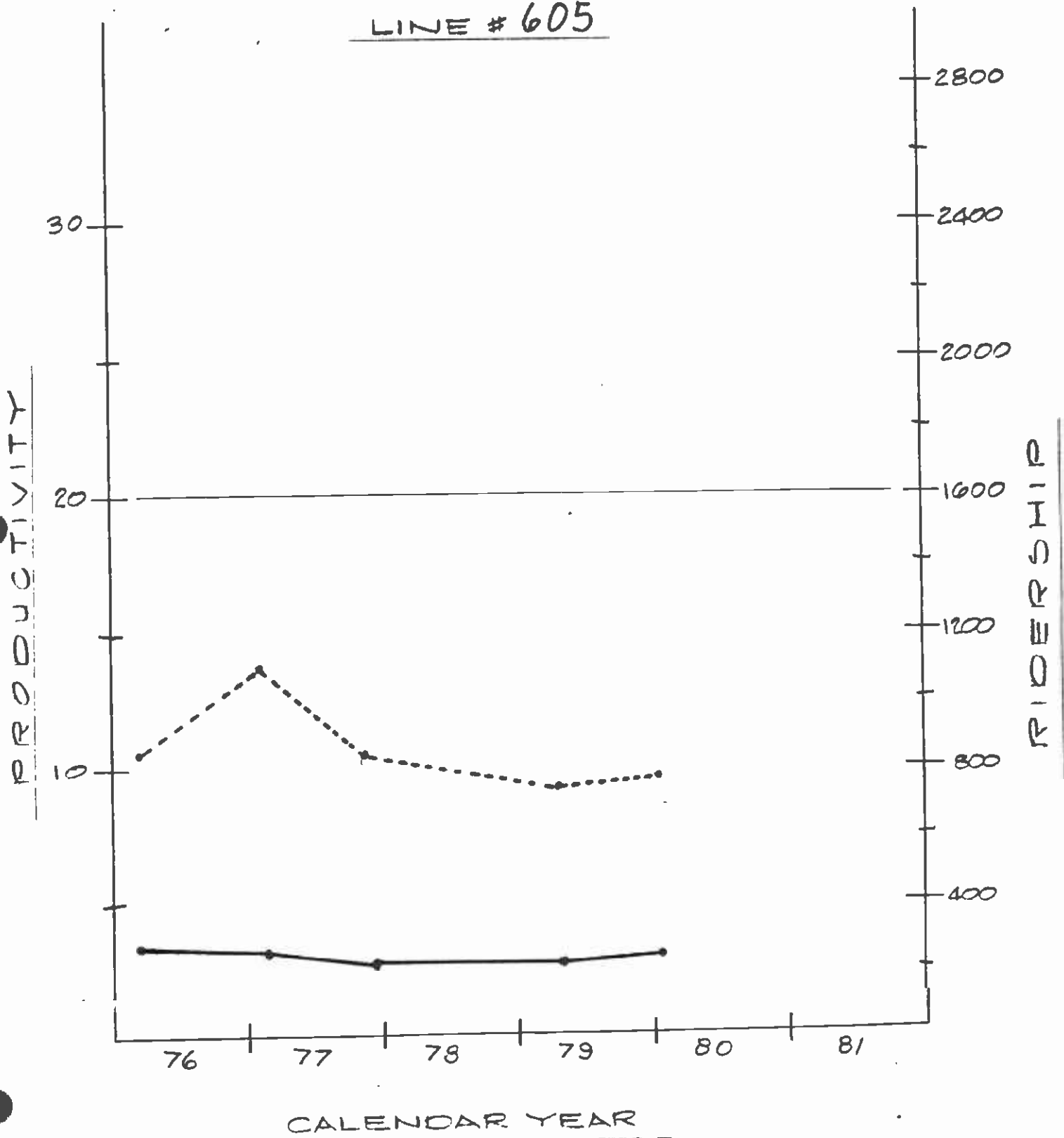
This line was modified because a large condominium complex was constructed adjacent to the intersection of Mindanao Way and Alla Road in the Marina area, and subsequently, requests were made to the District to provide bus service to this area. Since the current routes of Lines 605 and 877 were not accessible by walking from this new development, it was proposed that the routes be modified to provide direct service to the area.

Recommendation

Please see Line 604 for recommendations.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE # 605



PPBH

PASG.

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Line 606 (Culver Boulevard Freeway Express)

Service and Location

This line operates a peak hour Monday through Friday service.

Productivity

Ridership was 14.6 ppbh on 3-24-76; 3.1 ppbh on 5-29-76 and then increased to 14.8 on 2-13-80. On 2-13-80 there were 324 passengers.

However, ridership would have to increase to 438 passengers in order for the productivity to reach 20 ppbh.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
ppbh	14.6	3.1	11.8	12.1	14.8
pssgrs	410	50	258	265	324

Seating Capacity

The average AM ridership per trip is 39.5 passengers which is 84% of the bus seating capacity.

The average PM ridership per trip is 32 passengers which is 68% of the seating capacity.

Modification

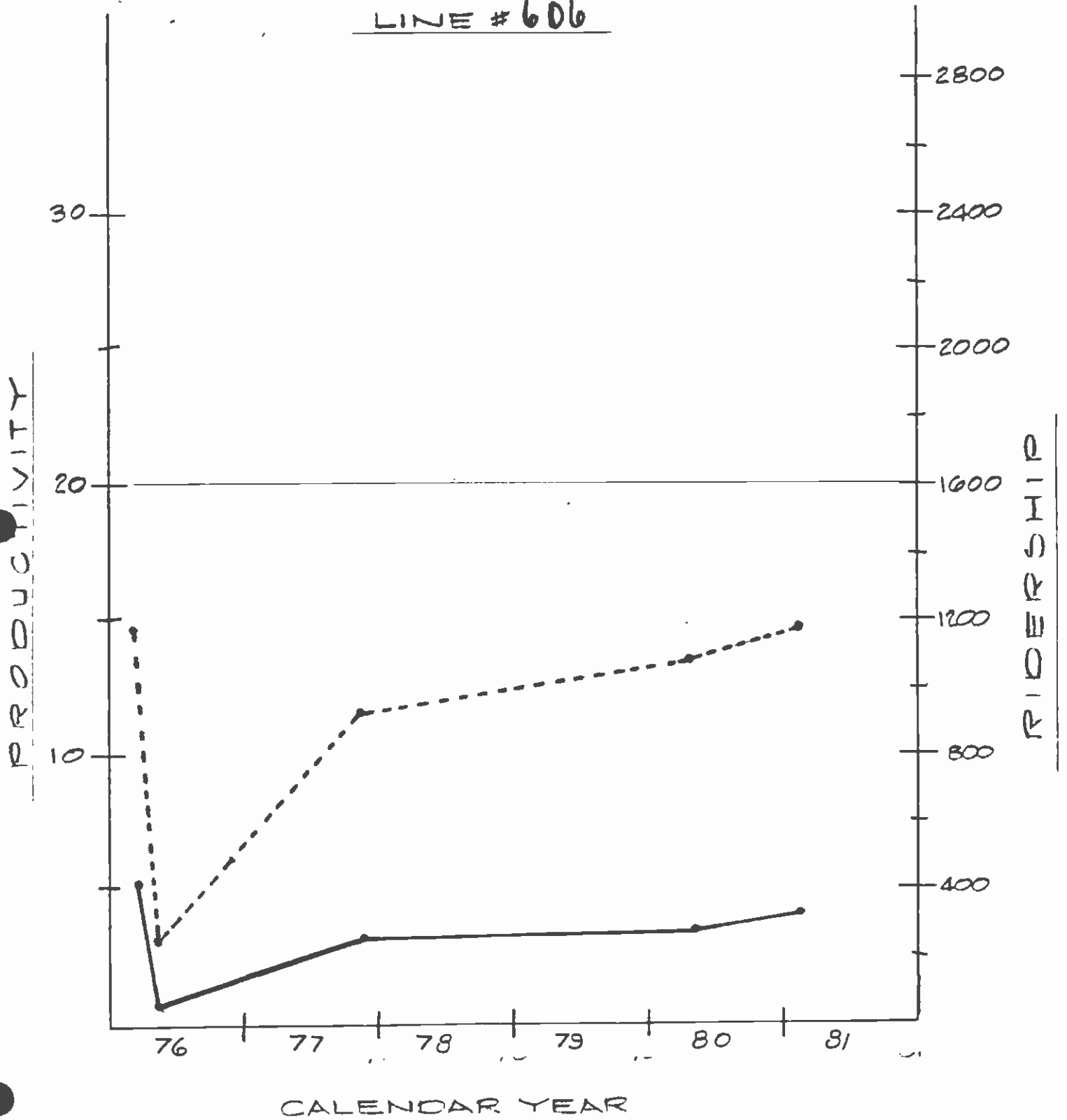
In June 1975 Line 13 was renumbered to Line 606 and the route was taken off of Venice Boulevard and placed onto the Santa Monica Freeway for downtown L.A. service during the peak periods. Base service was provided between El Segundo and Culver City about every 80 minutes. In 1976 the base and Saturday service was eliminated.

Recommendation

See Line 604 for recommendations.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE # 606



PPBH

PASG.

Line 607 (Los Angeles-Redondo Beach-Torrance Freeway Express)

Service and Location

This line operates a 20 minute peak and a 30 minute base service Monday through Friday.

Productivity

The ridership was 10.8 ppbh on 11-2-76; 15.5 ppbh on 4-18-77 and then 16.7 on 2-13-80 (1830 passengers) which was a rainy day. Ridership would have to increase to 2191 passengers daily in order for the productivity to reach 20 ppbh.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
ppbh	10.8	15.5	12.2	15.6	16.7
pssgrs	799	1150	855	1706	1830

Seating Capacity

The peak number of passengers on board Line 607 is at La Cienega boulevard and Rodeo Road where an average of 14 riders were on board each trip. On the Santa Monica Freeway portion of the route an all day average of only 10 passengers or 20% of the seating capacity was observed. During the peak period, peak direction trips an average of 25 riders or 51% of capacity were on the freeway route section.

Modification

The line was established in March 1976 with the route extending from Los Angeles to Sepulveda. The line was modified and extended to its present location, Fashion Way and Madrona Avenue in Torrance.

Reason for Low Productivity

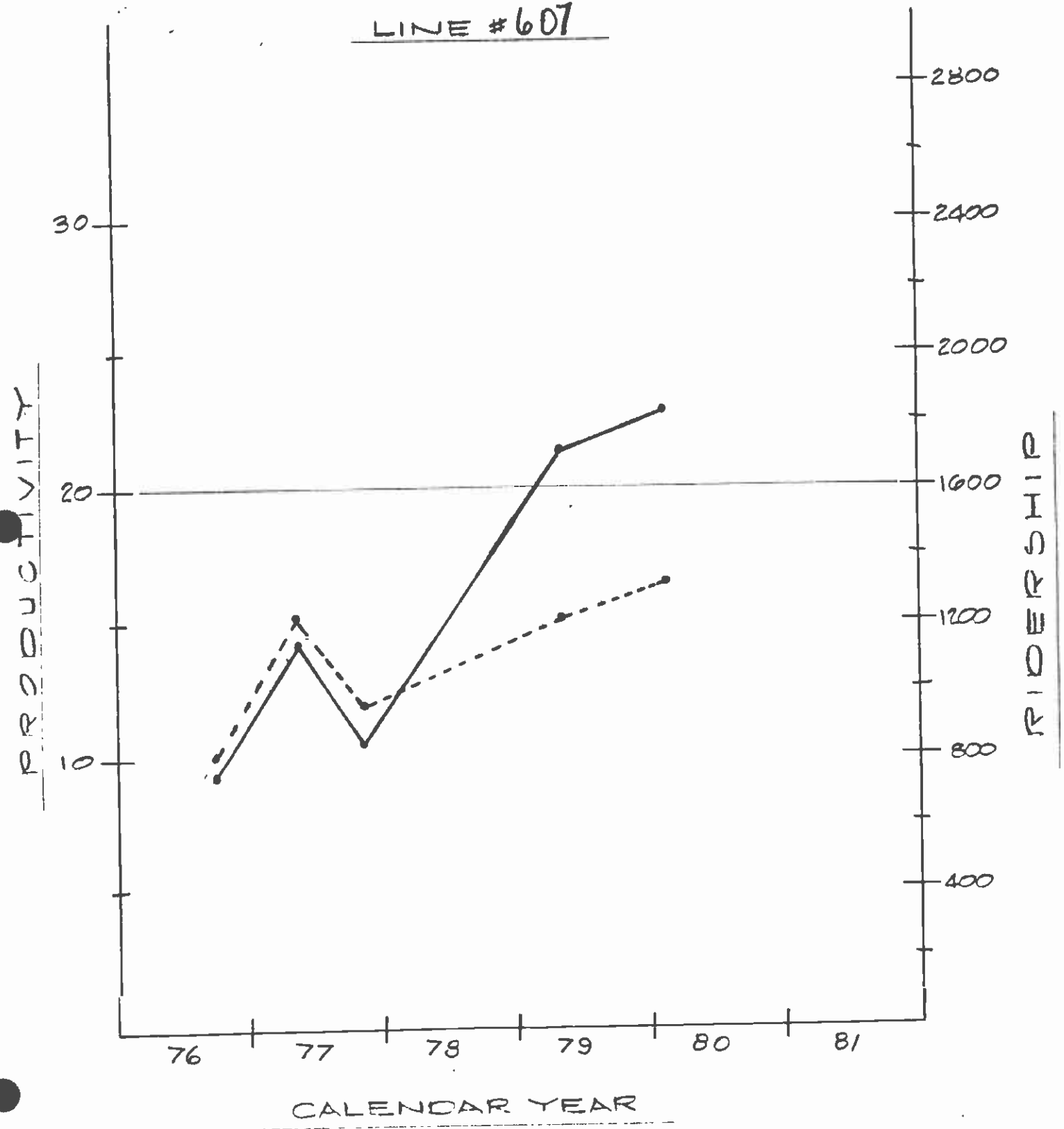
The low productivity could be a result of the low passenger turnover rate as well as the duplication of service on Line 871, and the fact that Line 871 offers comparable trip times at a lower fare. South of LAX most of Line 607 is duplicated by Line 869 on Douglas and Aviation and Line 232 on Pacific Coast Highway.

Recommendation

1. It is recommended that the southern portion of Line 607 be cancelled from Imperial and Douglas and that Line 867 be extended east to follow the eastern portion of the cancelled 607 between Torrance Boulevard and Carson Street to the Del Amo Center.
2. That Line 607 follow its regular route from Los Angeles to Imperial and Douglas, whereupon line should be extended east to Imperial and Inglewood.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE #607



PPBH - - - -

PAS.G. ———

Line 608 (Malibu-Pacific Palisades-Los Angeles Freeway Express)

Service and Location

This line operates a peak hour Monday through Friday Express service. It operates three (3) AM and three (3) PM trips.

Productivity

The productivity increased from 6.8 ppbh on 10-31-77 to 8.2 on 5-14-80. The ridership is 237 but it would have to increase to 397 in order for the productivity to reach 20 ppbh.

	<u>1977</u>	<u>1979</u>	<u>1980</u>
ppbh	6.8	4.2	8.2
pssgrs	85	83	163

Seating Capacity

The average passenger load per AM trip is 22 for the express portion of the trip. This is 46% of the seating capacity.

The average passenger load per PM trip is 25.6 for the express portion of the trip. This is 54.6% of the seating capacity.

Modification

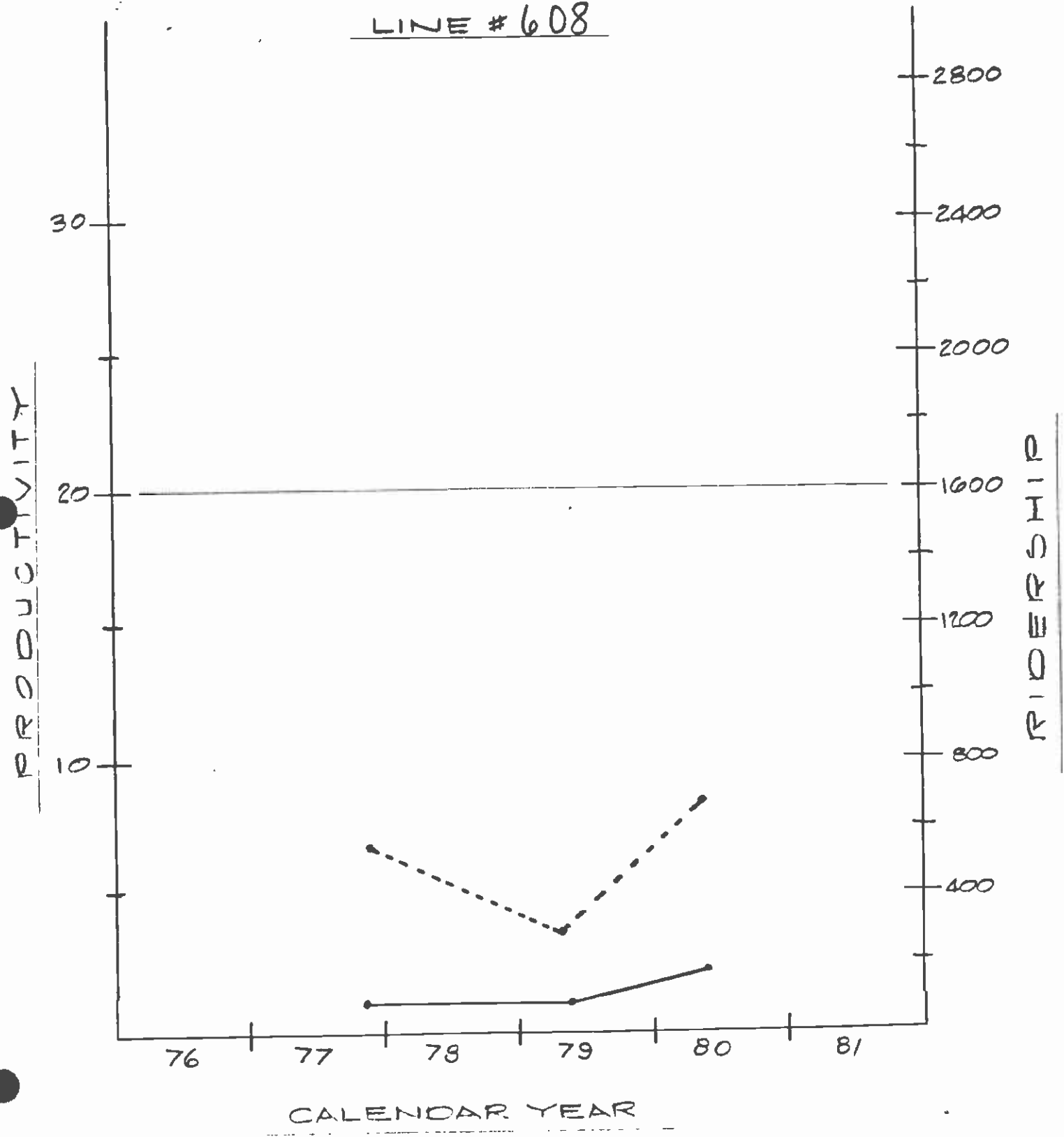
This line will be combined with Line 175 on 6-21-81 as new Line 434.

Recommendation

Because of the minor changes to become effective 6-21-81, it is recommended that this line be monitored by staff.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE # 608



PPBH - - - - -

PASG. —————

Line 716 (Canoga Park-Los Angeles Park/Ride)

Service and Location

This line operates a Park/Ride service which has six (6) peak hour trips in the AM and PM.

According to the 4-24 report of 6-15-80, less than 41% of the total vehicle miles was spent on in-service mileage. The use of more deadhead buses from downtown L.A. would reduce out-of-service time.

Productivity

The number of riders and rate of productivity have remained fairly constant over the past five years. A total of 480 riders would be needed to push this line over 20 ppbh.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
ppbh	15.3	15.0	12.9	15.9	15.1	13.3
pssgrs	410	360	284	352	364	366

At present, an average of 30 passengers or 62% of seated capacity per trip ride this line with the number evenly divided between the morning and evening service periods.

Reason for Low Productivity

Low productivity may be contributed to deadhead time and foreign line service on Line 35.

Modification

Service was inaugurated in April 1975 with five round trips from the Canoga Drive-In. In 1977 the Park/Ride lot was changed to the Topanga Plaza. In 1979, service to the Drive-In was cancelled and a second Park/Ride lot was established at the Fallbrook Square.

Recommendations

1. It is recommended that Line 716 have intermediate stops to pick up and discharge passengers. These stops would include Van Nuys, Reseda and Laurel Canyon Boulevards.

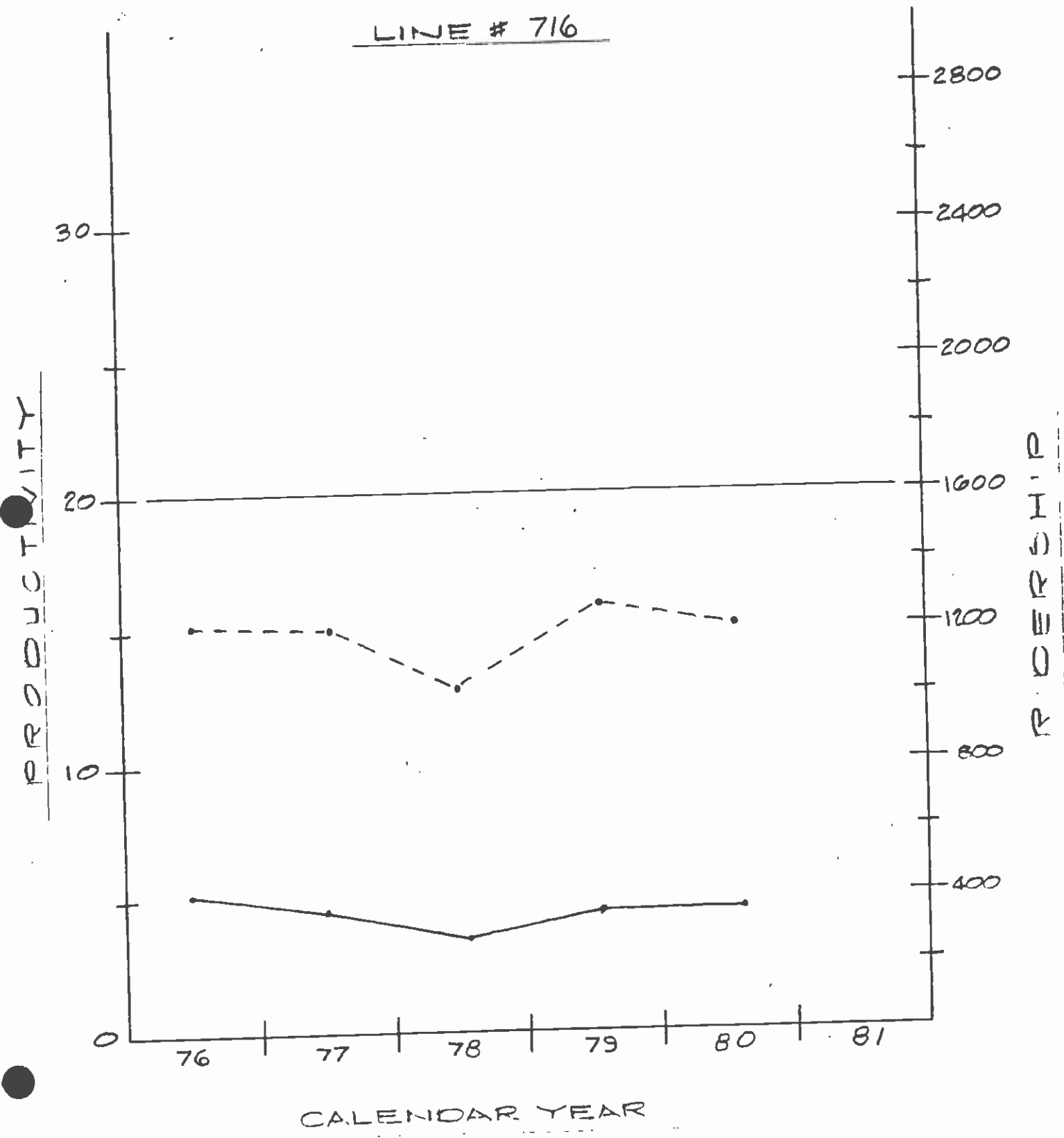
Van Nuys Boulevard stop would connect Line 88 for transfer connection into Westwood and Los Angeles Airport. Reseda Boulevard would be connecting with the 35 line for transfer into the Mid-Valley.

Laurel Canyon Boulevard would be connecting with Line 160 into Studio City and Mid-Valley.

2. It is further recommended that reverse peak trips be added. A study of Lines 81 and 35 shows that there are standees on these lines in this direction. The establishment of reverse peak direction service with intermediate stops on the Ventura Freeway should do well and relieve some of the overload on Line 35. These reverse direction trips on Line 716 could be worked out of Division 2. This would greatly reduce the out-of-service time on this line.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE # 716



PPBH - - - - -

PASG. —————

Line 755 (South Coast Park/Ride Service)

Service and Location

This park/ride operates a peak hour service Monday through Friday. A total of 12 AM and 13 PM trips are operated. This line serves the Circle Drive-In in Long Beach as well Seal Beach which is in Orange County.

Productivity

The productivity has increased from 19.4 ppbh in 1976 to 19.0 ppbh on 11-20-80 (995 passengers). The ridership would have to increase to 1047 passengers daily in order to raise the ppbh to 20. Ridership was averaging over 1100 during the first six months of 1980. Patronage dropped below 1000 after the 1980 fare increase and has not yet recovered.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
ppbh	19.4	17.4	19.3	19.3	19.0	19.5
pssgrs	743	663	704	976	999	1072

Seating Capacity

Ridership is now averaging 39 passengers per trip or 80% of seated capacity.

Modification

This line's route configuration has not changed significantly since it was implemented in November 1974. The number of trips has increased from 4 thirteen round trips.

Reason for Low Productivity

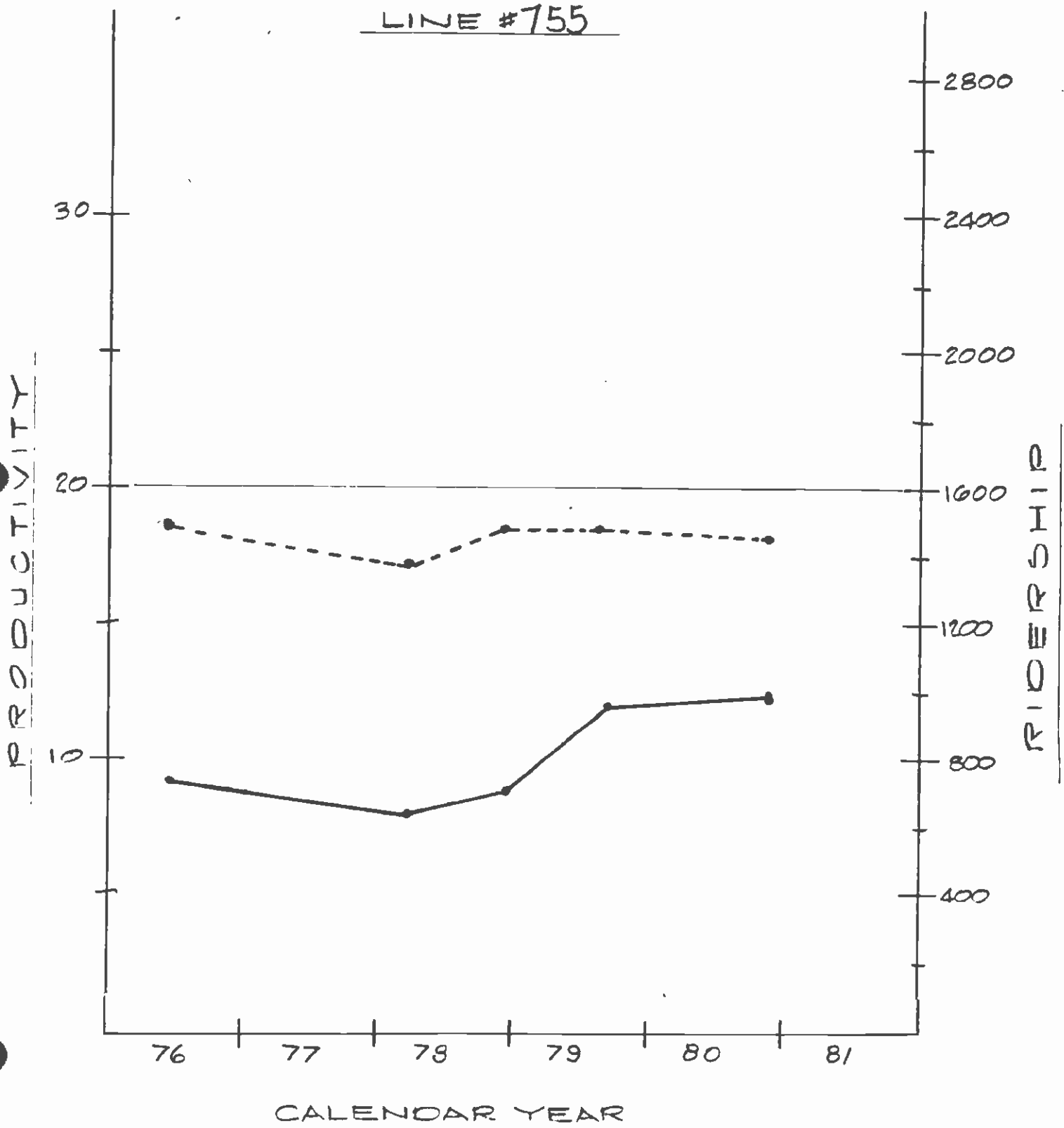
According to a study done by the Planning Department in June 1980, all of the park/ride services were experiencing a decline in ridership. It was suggested that it may be due to the fare increase of July 1980 and the easy availability of gasoline.

Recommendation

It is recommended that the boarding restrictions be removed on Line 755 and that local service in Long Beach be established. Stops should also be made on Lakewood Boulevard between the San Diego Freeway and Pacific Coast Highway.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE #755



PPBH - - - - - PASG. —————

Line 758 (Los Angeles-La Mirada-Los Angeles Park/Ride Service)

Service and Location

This line operates a park/ride service which has eight (8) peak hour trips in the AM and PM. The park/ride lots are located at the La Mirada Mall and the La Mirada Drive-In.

Productivity

The line has averaged 14 ppbh from 1976 to 1981. The number of riders and trips decreased after 1976 as the Fullerton Park/Ride Line 757 was implemented.

	<u>1976</u>	<u>1978</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
ppbh	14.8	16.0	13.9	14.7	14.1	16.0
pssgrs	880	510	485	553	609	586

Modifications

The La Mirada Mall became a park/ride site in November 1979 when this line was extended east of the La Mirada Drive-In.

Seating Capacity

As of 11-8-80 an average of 38 passengers per trip or 78% of seated capacity are using this line.

Reason for Low Productivity

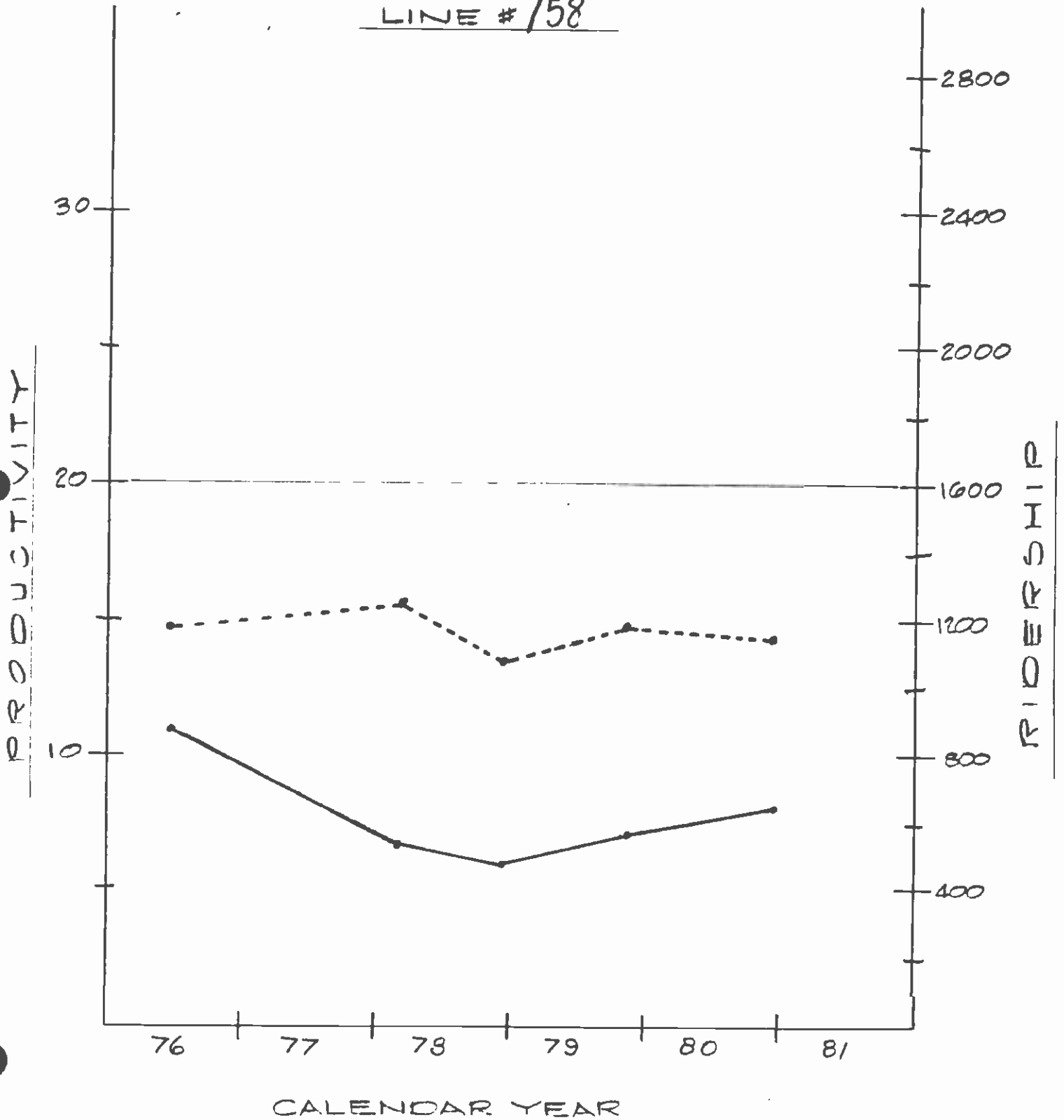
Its low productivity may be a result of the deadhead time and mileage. For example, the in-service mileage is less than 25% of the total vehicle miles.

Recommendations

It is recommended that Line 758 only operate to the La Mirada Drive-In and that service be cancelled to the La Mirada Mall. This would redirect passengers to the La Mirada Drive-In or the Line 757 Park/Ride. This would reduce vehicle hours and increase productivity.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE #758



PPBH - - - - -

PASG. —————

Line 814 (Los Angeles-N. Torrance-Redondo Beach-Palos Verdes)

Service and Location

This line operates a peak and reverse peak hour service Monday through Friday providing service to Torrance, Redondo Beach and Palos Verdes Estates.

Productivity

The productivity has increased continuously from 8.3 ppbh on 8-17-76 to 12.7 ppbh on 7-26-79. The ridership according to the last check was 550. However, to increase the productivity to 20 ppbh the ridership must reach 866 passengers.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
ppbh	8.3	9.2	11.3	12.7
pssgrs	610	665	516	550

Seating Capacity

The average AM peak hour ridership is 31 passengers a trip which is 66% of the seating capacity. While the average AM reverse peak ridership is five (5) passengers per trip which is only 10.6% of the seating capacity.

The average PM peak hour ridership is 18 passengers per trip which is 38% of the seating capacity. While the average reverse peak PM trip carries 3 passengers per trip which is 6% of the seating capacity.

Reason for Low Ridership

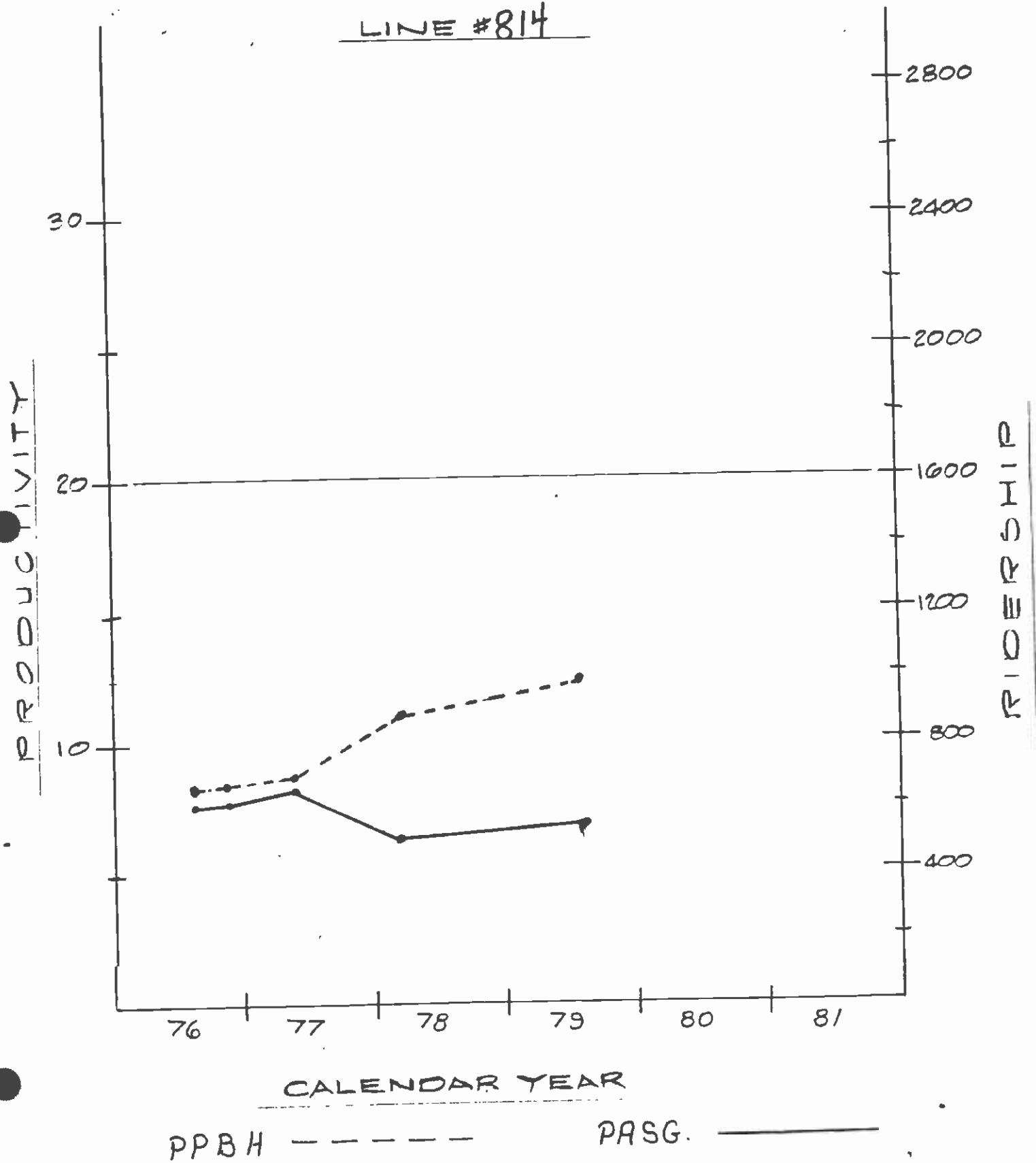
In addition to the low turnover rate of passengers per trip, Line 814 has a high rate of mileage used for deadheading. Only 66% of the total vehicle miles are in-service mileage.

Recommendations

1. It is recommended that the reverse peak hour trips be cancelled.
2. It is also recommended that the headway be increased from fifteen to twenty minutes. This will reduce the vehicle hours, save two buses, and increase productivity.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE #814



PEAK HOUR EXPRESS LINES

LINES	TOTAL PASSGRS.	TOTAL PASSGRS. ON BOARD EXPRESS PORTION	PASSENGERS PER TRIP ON EXPRESS PORTION	% OF SEATING CAPACITY USED ON EXPRESS PORTION
123 TOTAL	70	64	32	68%
A. M.	43	37	37	79%
P. M.	27	27	27	57%
494 TOTAL	340	234	29	62%
A. M.	188	130	33	69%
P. M.	152	104	26	55%
512 TOTAL	60	42	11	22%
A. M.	21	19	10	20%
P. M.	39	23	12	24%
514 TOTAL	113	99	16	35%
A. M.	56	53	18	38%
P. M.	57	46	15	33%
601 TOTAL	146	126	16	34%
A. M.		42	21	45%
P. M.		24	12	26%
Reverse A.M.		19	10	20%
Reverse P.M.		41	21	44%

PEAK HOUR EXPRESS LINES

LINES	TOTAL PASSENGERS	TOTAL PASSGRS. ON BOARD EXPRESS PORTION	PASSENGERS PER TRIP ON EXPRESS PORTION	% OF SEATING CAPACITY USED ON EXPRESS PORTION
602 TOTAL	320	316	20	42%
A. M.		142	28	60%
P. M.		118	24	50%
Reverse AM		15	5	11%
Reverse PM		41	14	29%
604 TOTAL	624	507		63%
A. M.		297	33	70%
P.M.		210	26	56%
605 TOTAL	237	220	15	31%
A. M.		91	18	39%
P. M.		99	20	42%
Reverse AM		12	6	13%
Reverse PM		18	6	13%
606 TOTAL	324	286	36	76%
A. M.		158	40	84%
P. M.		128	32	68%

PEAK HOUR EXPRESS LINES

LINES	TOTAL PASSENGERS	TOTAL PASSGRS. ON BOARD EXPRESS PORTION	PASSGRS. PER TRIP ON EXPRESS PORTION	% OF SEATING CAPACITY USED ON EXPRESS PORTION
608 TOTAL	237	143	24	51%
A. M.		66	22	47%
P. M.		77	26	55%
716 TOTAL	364	364	30	64%
A. M.	198	198	33	70%
P. M.	166	166	28	59%
755 TOTAL	999	999	38	82%
A. M.	492	492	38	81%
P. M.	507	507	39	83%
758 TOTAL	539	539	34	72%
A. M.	284	284	36	79%
P. M.	255	255	32	72%
814 TOTAL	550	449	24	50%
A. M.		284	36	76%
P. M.		144	24	51%
Reverse A. M.		12	6	13%
Reverse P. M.		9	3	6%

Analysis of Contract Lines

Line 205 (Westwood Minibus)

Service and Location

It has an eight (8) minute headway operating on Friday nights and Saturdays, all day. The bus travels past the peripheral parking lots and increases access to potential customers of the Westwood Shopping area.

Productivity

It had a ppbh of 19.9 on 6-10-77; 9.3 on 9-8-78 and began to increase again to 12.1 on 8-24-79.

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
ppbh	19.9	9.3	12.1	8.4
pssgrs	464	224	290	202

Modifications

This line has maintained the same route for the past three and a half years.

Reason for Low Productivity

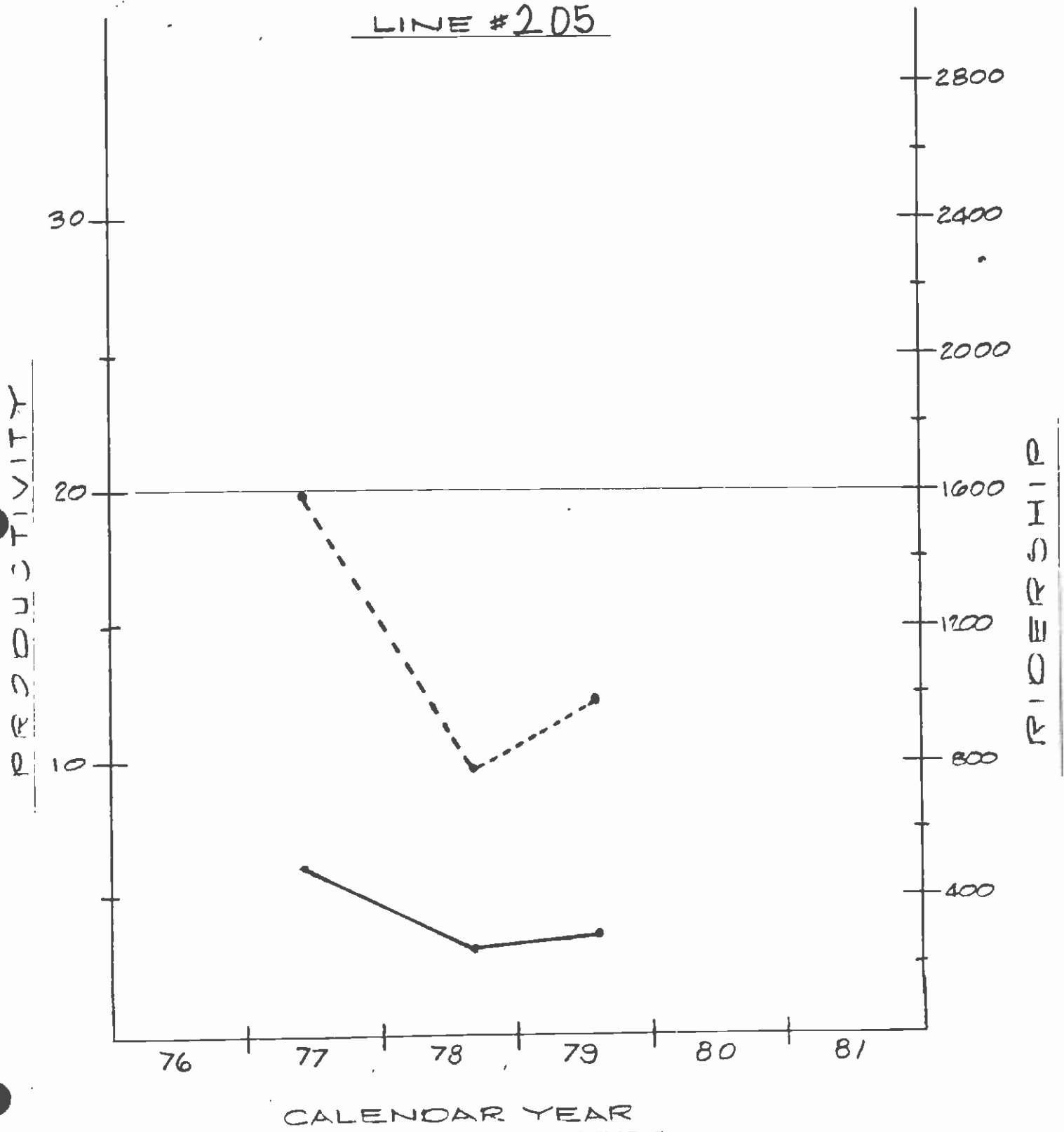
This line was contracted by the City of Los Angeles for the purpose of improved access into shopping for the Westwood area. The bus route does not cover the peripheral parking lots serving the Westwood Shopping area. However, the customers are not patronizing this service.

Recommendation

A joint advertising effort of SCRTD and the Westwood L.A. Regional Chamber of Commerce and possibly coordinated by the service's sponsor, the City of Los Angeles, could increase ridership in this area.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE #205



PPBH - - - - -

PASG. —————

Line 496 (Los Angeles-Riverside-San Bernardino)

Service and Location

This line operates from Los Angeles to San Bernardino. It has a 60 minute service 7 days a week.

Productivity

The ppbh increased slightly from 13.5 on 5-13-76 to 15.2 ppbh on 6-26-80.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1980*</u>
ppbh	13.5	14.6	14.0	13.6	15.2	18.1
pssgrs	686	1471	1313	1112	1238	1481

* - L.A. County ppbh ratio is over 20.

Modification

Line 496 was implemented in 1976 replacing Line 60E and 60F. The funding source for this line is shared by San Bernardino Association of Governments (SANBAG) and the City and Count of Riverside. These groups have the right under the contract to define the routes to be operated and to delineate levels of service to be provided within these counties.

In 1977 there was a minor modification of the line. The line was no longer routed through Pomona. The only stops were at San Bernardino Freeway and Garey Avenue. This shorter running reduced time for over 1000 passengers.

There was a minor route modification in 1980. In order to serve the Eastland Shopping Center, additional boarding and lighting stops were established. According to the ride check of 6-80, the productivity had increased from 13.6 to 15.2 after the modifications.

Reason for Low Productivity

This line carries approximately 1200 passengers a day with an average of 36 passengers per trip, an average of 38 passengers on the E/B peak hour and 47 passengers W/B peak hour.

This line has low productivity because of the daily distance of 2425 miles, the restrictions placed on the line by SANBAG and OMNITRANS and the spread of service play an important factor in the causes of low productivity.

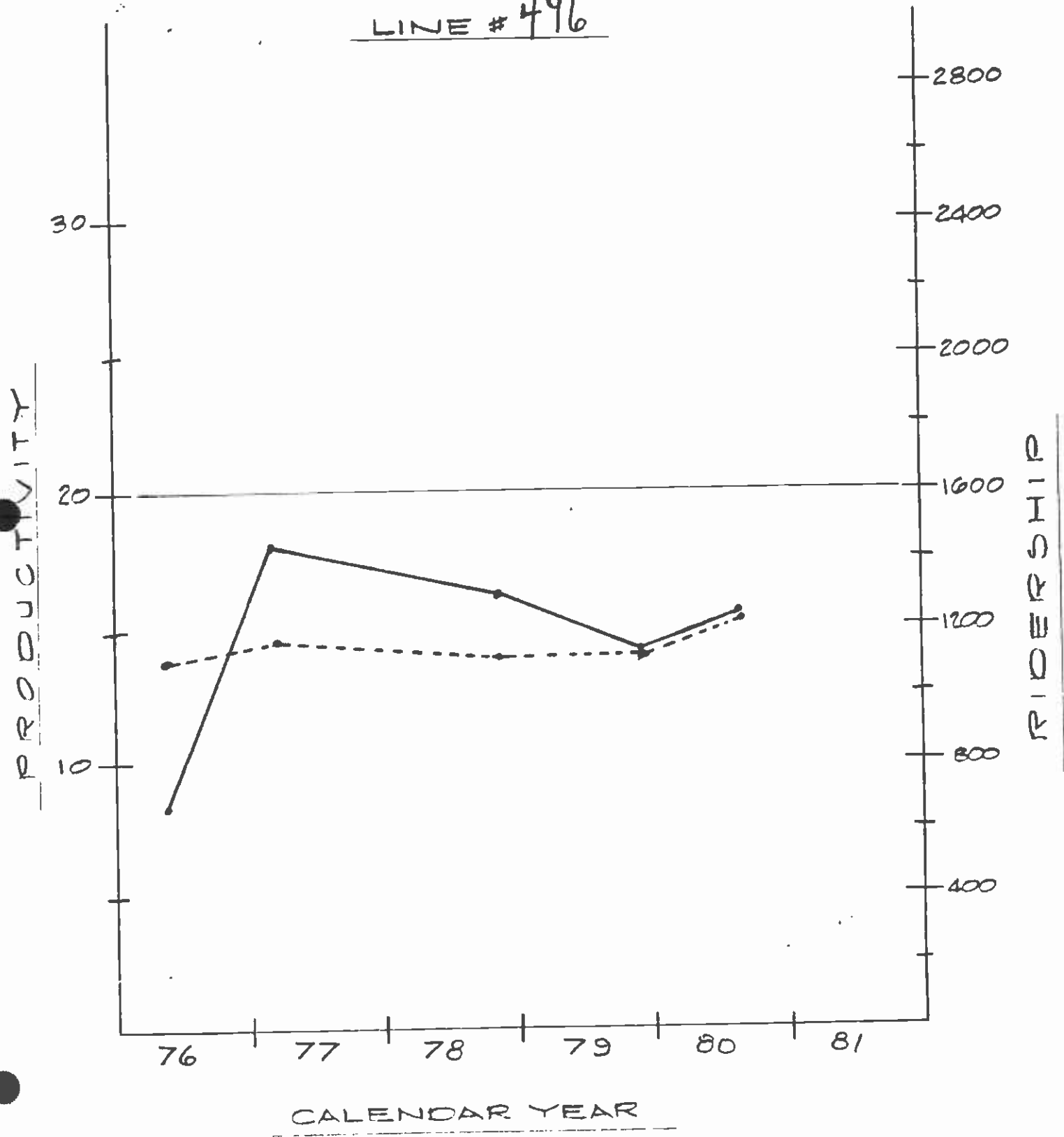
(The average passenger ride on Line 496 is 38.13 miles while the District average is 4.0 miles).

Recommendation

Please note Line 860 for recommendation.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE # 496



PPBH - - - - -

PASG. —————

Line 800 (Los Angeles-Norwalk-Santa Ana via Knotts Berry Farm-Disneyland)

Service and Location

This line has a 30-minute midday headway, seven days a week and it travels between Los Angeles and Disneyland.

Productivity

The ppbh has increase from 3-3-76 to 18 ppbh on 10-14-80. The increase in ridership may be due to the service change implemented on 10-14-80.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
ppbh	10.7	14.6	13.3	15.2	18.0
pssgrs	2077	2852	2632	2733	3083

Modification

On 6-15-80, Lines 800/802 were combined into Line 800 between Los Angeles and Santa Ana. It now provides more frequent service to Knotts Berry Farm and Santa Ana. (Service on Lincoln Avenue between Beach Boulevard and Anaheim Shopping Center is now being provided by OCTD Line 42).

Reason for Low Productivity

Although the line carries over 3000 passengers a day according to the 10-14-80 riding check, the distance that the line covers, the spread of service, the low passenger turnover and the desired frequency of the line reduces its productivity.

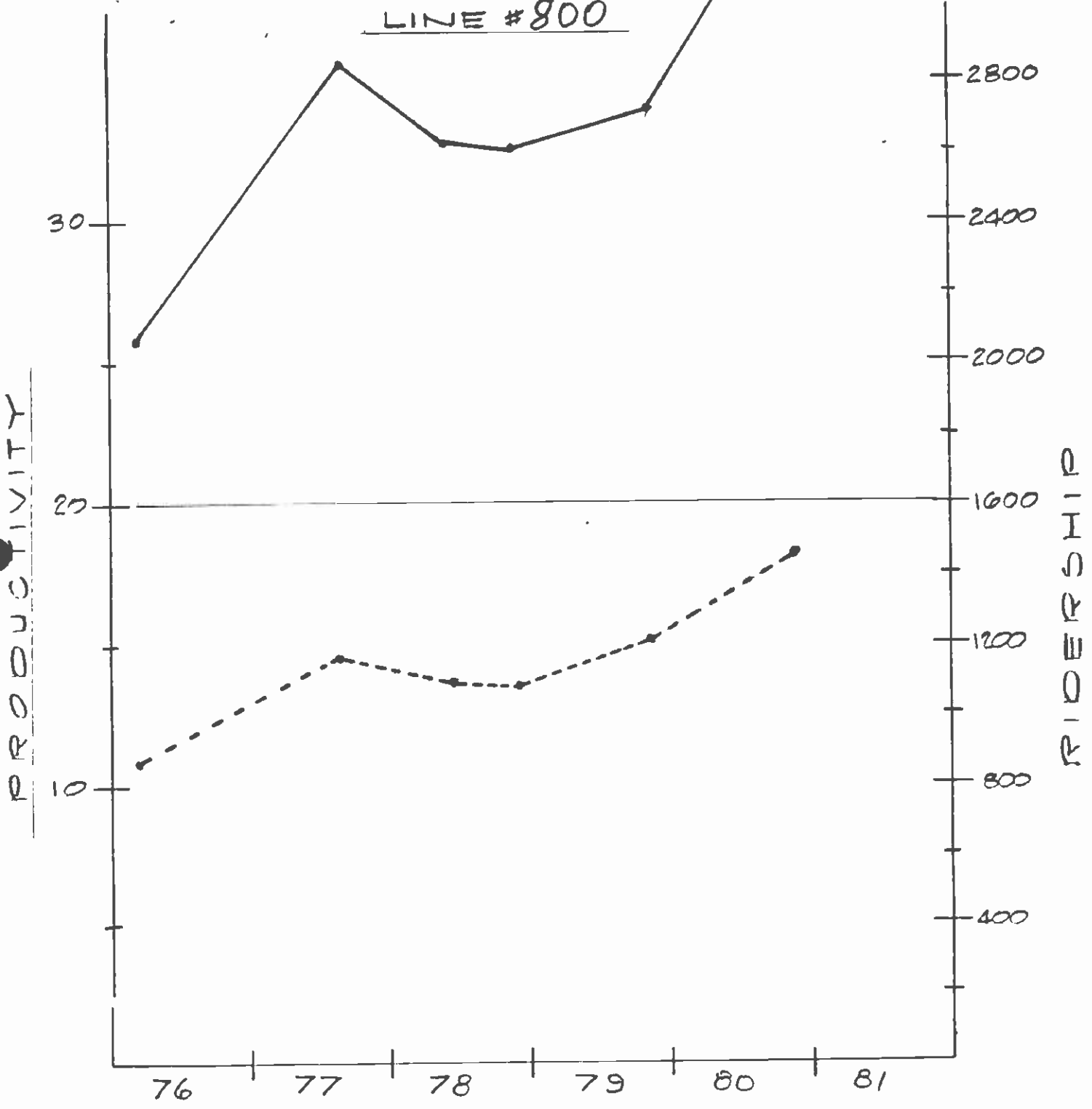
For example, the District's average ride length per passenger is 4.0 miles. While Line 800's average ride is 17.8 miles.

Recommendation

Extend Line 800 through downtown Los Angeles. Using 5th and 6th Streets, laying over in the area of 5th and Beaudry or Temple and Fremont Streets, using Figueroa Street. The buses would no longer lay over at RTD Station. this would make for a more desirable and safer boarding and lighting area.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE #800



CALENDAR YEAR

PPBH - - - - - PASG. —————

Line 860 (Long Beach-Disneyland-Riverside)

Service and Location

This line has a 60-minute headway, seven days a week from Long Beach to Disneyland and a 3 hour headway between Disneyland and Riverside.

Productivity

The line decreased in productivity from 9.5 on 8-17-76 to 4.2 on 4-10-79. However, 10-13-80 the productivity increased to 12.5 ppbh.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
ppbh	9.5	6.5	4.2	6.9	12.5
pssgrs	850	350	266	334	615

Modification

The District is making a joint study with OCTD, OMNI Trans, RTA in order to improve the service on Lines 496 and 800.

The following changes have been proposed:

1. That Line 860 be extended to San Bernardino.
2. That Line 496 cancel their service between Riverside and San Bernardino.
3. That new Line 798 be established to cover the El Monte and San Bernardino in peak periods only.

(This is all subject to the approval by the foreign counties.)

Reason for Low Productivity

Line 860 covers 63.5 miles in one direction and the average passenger ride is 15.8 miles, while the District's average is 4.0 miles. This contract line is similar to the 800 and 496 in that the distance travelled plays an important part in the low productivity of the line.

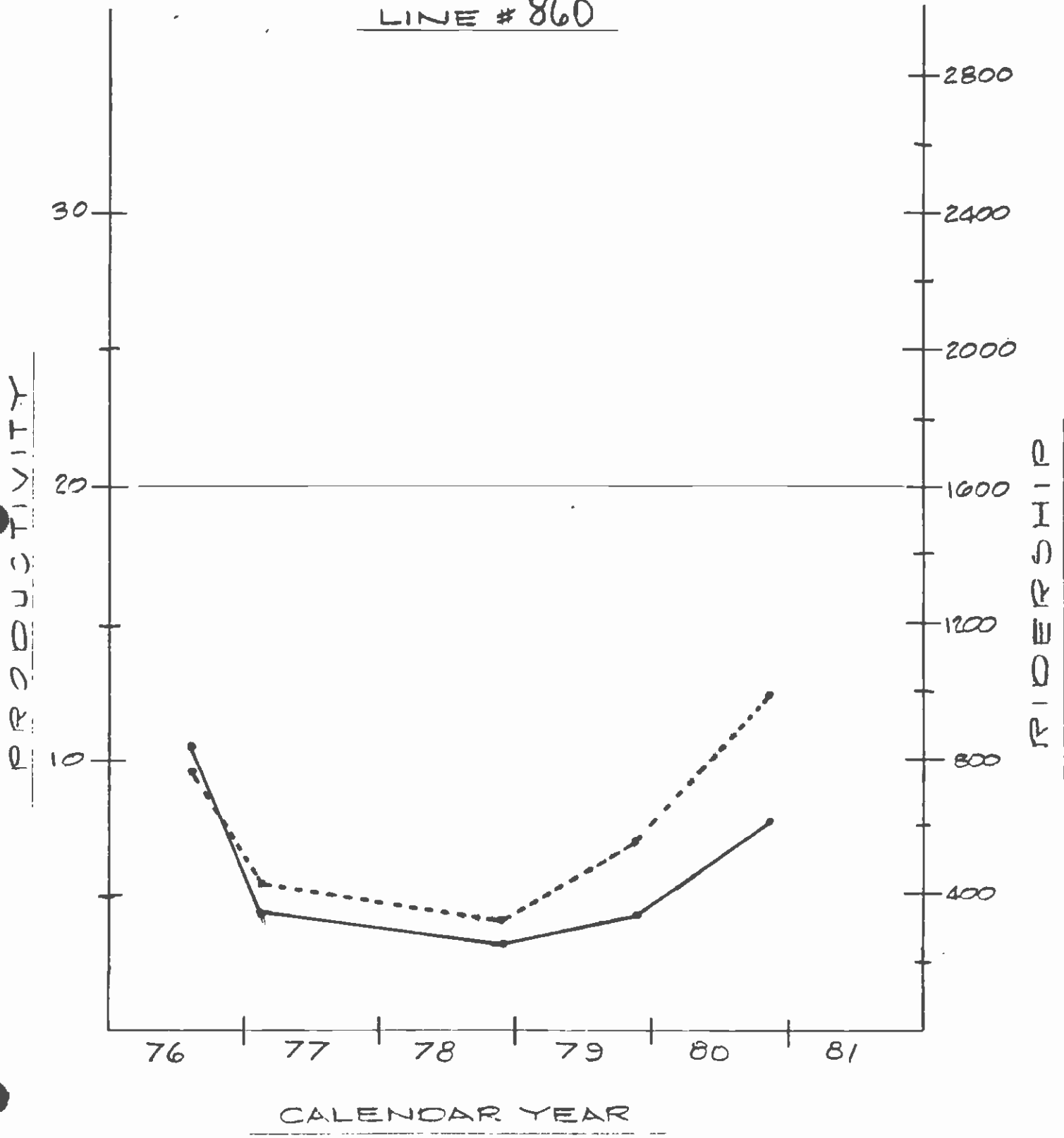
Therefore, the low productivity may be a result of distance of the line and the low passenger turnaround.

Recommendation

It is recommended that staff monitor Lines 860, 800, 496 for ridership and productivity.

RIDERSHIP HISTORY OF THE
LOW PRODUCTIVITY LINES

LINE # 860



PPBH - - - - -

PASG. —————

ACKNOWLEDGEMENTS

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