SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

1060 SOUTH BROADWAY • LOS ANGELES, CALIFORNIA 9OO15 • TELEPHONE (213) 749.6977

JACK R. GILSTRAP
GInEmAL MANAGER
May 21, 1975

To: Members of the Board of Directors
From: Jack R. Gilstrap
Subject: Status of the Grid Systems Evaluation Program

## SCENARIO

A joint-agency committee was formed to evaluate the trial grid projects in the San Fernando Valley and the South Central Los Angeles area. The Grid Systems Evaluation Committee is composed of representatives from the following agencies:

> California Department of Transportation
> (Coordinator)
> City of Los Angeles
> County of Los Angeles
> Southern California Rapid Transit District

The Comittee was crated at the request of the County of Los Angejes Road Department.

The purpose of the Committee is to evaluate the impact of the grid systems on the tota transportation system of the San Fernando Valley and the South Central project areas. The respective responsible agency has and is continuing to collect data on surfare street traffic, highway and freeway vehicle volumes and bus transit ridership. The agencies will report on that element of the aggregate transportation system which falls under its jurisdic+ion:

CALTRANS - "reeway vehicular volumes
City and County - Surface street traffic
SCRTD - Bus transit operations and ridership

## BUS TRANSIT EVALUATION

An integral stipulation of the subsidization Agreement with the County is an evaluation of the effectiveness of the grid system concept in attracting greater patronage of bus

Page 2
Members of the Board of Directors
Jack R. Gilstrap
Status of the Grid Systems Evaluation Program
May 21, 1975
public transportation servic ₹. If ridership is significantly increased, the District is to report on the factors involved in the continuation and $t$ xpansion of the grid to other areas. In essence the ultimate objective of the evaluation program is to determine whether the grid system projects are worthwhile and warrant funding by the County beyond the 13 week trial period.

To ensure direct input by the County on the operation, marketing and adjustments to/of the grid systems during the trial period, the Joint Agency Transit Advisory Committee was formed. The JATAC is composed of representatives from the County Road Department and the District. The purpose of the JATAC is to "fine tune" and effectively promote the grid systems.

The bus transit evaluation program comprised of six elements is in various stages of completion. The elements are:

Ridership checks
Questionnaire survey
Farebox revenue tallys
Trivers' passenger estimates
Screenline passenger counts
JATAC studies and recommendations.
The data already collected, reuiced and tabulated for the two grid areas are attached by grid system area as follows:

SOUTH CENTRAI. GRID SYSTEM (Fstablished March 30, 1975)
The screenlino method was used to establish "before" and "after" grid s-stem passenger estimates for comparative purposes. The "before" Cr $\because$ : was made in January, 1975. Two "after" condition screenlinf passenger counts have been scheduled --- one in April and one in May, 1975. A screenline count measures the number of passengers alighting from buses and departing aboard buses at and through a specific street. The screenlines are: north/south - Central Avenue, Vermont Avenue; east/west - Vernon Avenue, Manchester Avenue, Imperial Highway. The completed screenline passenger counts are attached.

Page 3
Members of the Board of Directors
Jack R. Gilstrap
Status of the Grid Systems Evaluation Program
May 21, 1975

A questionnaire surv?y was conducted to make a qualitative assessment of the grid vstem. Of a total of 10,000 forms, responses were recorded for over 5,000 questionnaires for a very good return rate of over $50 \%$. The results of the tabulated survey are attached.

Two complete riding checks have been scheduled for all of the new grid system lines. The first check was scheduled for April and a second for May. The purpose of the two riding checks is to determine the magnitude and degree of ridership growth specifically on the newly established lines. The checks for the completed first round counts are attached.

Farebox revenue tallys were collected for Division 4 \& 5 and 18 to ascertain ridership growth as reflected by increases in revenue.

Drivers' passenger estimates were collected to identify those lines and subareas which required more concentrated promotion and to aid in estimating any incremental ridership growth. The tabulated passenger estimates are attached.

A cumplete listing of the JATAC recommendations for extension and expansion of the grid system and the factors of costs. equipment, and operations involved in the recommendations are described in the attached notes.

SAN FERNANDO VALLEY GRID SYSTEM (Established March 30, 1975)
Riding checks were made on all the lines operating in and thruujh the Valley, both for the "before" and "after" grid system condition. The riding check method was chosen to make the comparative analysis because of the major changes made in line routings and the manageable number of lines operating in the Valley. Completed first round tabulations are attached.

A questionnaire survey was conducted to make a qualitative assessment of the grid system. Of a total of 12,000 questionnaire forms, responses were recorded for over 10,000 forms for an excellent return rate of about $80 \%$. A tabulation of the responses are attached.

Page 4
Members of the Board of Directors
Jack R. Gilstrap
Status of the Grid Systems Evaluation Program
May 21, 1975

Farebox revenue tall's were collected for Division 8 and 15 to ascertain ridership growth as reflected by increase in revenue.

It should be noted that screenline type passenger counts were not made in the Valley because complete ridership information was obtainable by riding checks. The geographical and topographical features of the Valley tend to provide a natural barrier and isolate the Valley enough so that passenger counts could be made relatively easy.

PRELIMINARY FINDINGS
As the attached tables illustrate, the data required for a thorough evaluation of the grid systems is still in the process of being collected. However, the data processed to date indicate that both grid systems have already realized an increase in ridership.

South $C$ ntral Grid System: The questionnaire survey showed that $14 \%$ of the respondents formerly made their respectiv: crip by driving. This represents a significant diversion $\because=0$ bus transportation facilities. The large number of respondents (more than 5,000) lend considerable credibility to the survey. Fine screenline passenger counts show the greatest increase in ridership occuring in the easterly and southerly sections of the grid project area. For the 15 new grid bus liner, the operators' 'assenger estimates show an incremental ridership growth of $39.5 \%$ or 5,700 daily riders for the oi fht weeks between March 3, 1975 and April 28, 1975. The riding cheaks give the exact number of riders for each new grid line and will serve as the basis for determination of service demand and ultimately, frequency of service provided. The extent tu which the South Central Grid System has influenced travel oehavior cannot be quantified without further analysis of the data alreany vollected and being developed.

San Fernando Valley Grid System: The questionnaire survey showed that $15 \%$ of the respondents formerly made the respective trip by driving. The excellent return rate of the questionnaire forms (more than 10,000 of 12,000 forms) lend considerable validity and credibility to the survey data. A review of the compiled ridership counts further substantiates the survey data. Even with incomplete returns of the riding checks, a phenomenal increase in ridership is indicated. The intra-valley lines show an increase of $103 \%$

Page 5
Members of the Board of Directors
Jack R. Gilstrap
Status of the Grid Systems Evaluation Program
May 2l, 1975
or 15,277 daily riders and the inter-valley lines show an increase of $6 \%$ or 2,126 daily riders. The incomplete ridership count returns show a total increase in Valley ridership, is 17,403 daily riders or $36 \%$. These increases in ridership can be assessed against an increase in equipment requirements of 105 buses---from 223 buses to 328 buses or almost $50 \%$ increase. The true significance of these numbers cannot yet be related until all the data has been processed and analyzed.

It should be noted here that no specific ridership numbers were mentioned for the South Central Grid as opposed to the San Fernando Valley Grid System. The complexity of the South Central Grid area precludes direct comparisons for the "before" and "after" grid conditions. There are no natural geographical boundaries or land features uniquely delineating the South Central project area. A further complicating issue results from the fact that most of the long established liner (pre-grid lines) operating in the area have very large patronage and run predominantly outside of the project area.


By: H- Ard C. Beardsley
Assistant Manager of Rapid
Transit and Surface Planning
Attachments

## DATA COLLECTED

Item Page

| Riding Checks - After Grid | $\mathrm{SF}-1$ |
| :--- | :--- |
| Questionnaire Survey Summary | $\mathrm{SF}-3$ |
| Riding Checks - Before Grid | $\mathrm{SF}-5$ |
| Extension and Modifications | $\mathrm{SF}-7$ |

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& \begin{array}{l}
\text { RIDING CHECKS } \\
\text { SAN FFRNANDO VALLEY PASSENGER VOLUMES } \\
\text { EAI FERNANDO VALLEY GRID SYSTEM }
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4,374 \mathrm{n} / \mathrm{b} & 4,365 \mathrm{~s} / \mathrm{b} \\
2,923 \mathrm{e} / \mathrm{b} & 3,124 \mathrm{w} / \mathrm{b} \\
2,553 \mathrm{e} / \mathrm{b} & 2,685 \mathrm{w} / \mathrm{b} \\
1,077 \mathrm{n} / \mathrm{b} & 1,206 \mathrm{~s} / \mathrm{b} \\
4,725 \mathrm{n} / \mathrm{b} & 4,832 \mathrm{~s} / \mathrm{b}
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\begin{aligned}
& \text { INTRA-VALLEY LINES } \\
& 151 \text { Topanga Canyon Blvd.-Mulholland Dr.- } \\
& 152 \text { Fallbrook Ave.-Roscoe Blvd.-Vineland Ave. } \\
& 153 \text { De Soto Ave.-Ventura Blvd.-Winnetka Ave. } \\
& 154 \text { Tampa Ave.-Ventura Blvd.-Burbank Blvd.- } \\
& 155 \text { White Oak Ave.-Zelzah Ave.-Rinaldi Ave. } \\
& 156 \text { Balboa Blvd.--Ventura Blvd.-Woodley Ave. } \\
& 157 \text { Sepulveda Blvd.-Ventura Blvd.-Van Nuys } \\
& 158 \text { Devonshire St.-Woodman Ave. }
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RIDING CHECK SUMMARY - BEFORE GRID* SAN FERNANDO VALLEY (1975)



## SAN FERNANDO VALLEY GRID SYSTEM

Extension and Modification:
Indications are that the Grid System has been well received in the San Ferdanc Valley, with a minimum of negative comments from the rıding public and District operating personnel. The full impact of the effect of a Grid System in this area is yut to be realized.

There have been numerous requests, and suggestions, from residents objecting to buses operating on certain neighborhood streets. Each problem was investigated by the JATAC Field Team and corrective action taken as quickly as possible with minor route modifications. In no case have these minor changes had any effect on the Grid concept.

Requests for extended or improved service follow:
Line 168 - A request has been received to extend this line westerly along Lassen Street, between DeSots Avenue and Topanga Canyon Boulevard, to serve a mobile home park housing about 300 residents. This extension will require one (I) additional bus, with an estimated annual cost of $\$ 69,000$. This is considered high priority. It is planned to implement this extension contingent on the availability of squipment.

Lint 166 - Several telephone requests have been received to extend this line from its present termi:: ll at Foothill Boulevard and Terra Bella Street to the Pacoima Lutheran Hospital (Eldridge Avenue and Terra Bella Street), a distance of about . 75 mile. This extension may be made with no additional equipment required.

Line 165 - It has be on suggested to the District that a minor re-route in the vicinity of the Lockheed-Burbank Airport would provide better service for some recently occupied Lockheed facilities in the area. The effect on present ridership was considered to be minimum. This change in route has been implemented on a trial basis. Follow-up passenger information will be obtained, and if this route is found satisfactory it can be made permanent.

San Fernando Valley Grid System
Page 2

| Sylmar | - A rivic organization and residents of Sylmar have submitted a proposal for expanded $\mathrm{c} u \mathrm{~s}$ service in Sylmar. They are suggestinc $\exists$ an extension, or re-alignment, for some ot the five (5) District lines which currently terminate in the City of San Feriando, so as to provide a direct service between Sylmar and the San Fernando Valley. Current evaluation checks which are now being completed will be used to determine effects on present riders by re-alignment of routes. This data will be compiled in the near future and a cost projection made at that time. |
| :---: | :---: |
| $\begin{aligned} & \text { North } \\ & \text { Hollywood } \end{aligned}$ | Since the implementation of the Grid System, there have been requests to provide service on additional north-south streets, primarily Whitsett Avenue, and Lankershim Boulevard. A number of these requests originated from senior citizens. This area will be studied for possible changes upon completion of the current evaluation study. |

A co- cinuing program of studies of extensions and modifications and investiqations of complaints and requests for services by the ustac will continually update the above mentioned projects.

DATA COLLECTED

| Item | Page |
| :---: | :---: |
| Screenlines | SC- I |
| Central Avenue Screenline | SC- 2 |
| Vermont Avenue Screenline | SC- 3 |
| Vernon Avenue Screenline | SC- 4 |
| Manchester Boulevard Screenline | SC- 5 |
| Imperial Highway Screenline | Sc- 6 |
| Questionnaire Survey Summary | SC-7 |
| Riding Checks | SC- 8 |
| Bus Operators Passenger Estimates | SC-10 |
| Extension and Modifications | SC-Il |

South Central Grid System<br>(Half-day Passenger Counts 6:00 a.m. to 2:30 p.m.)




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\text { Florence Avenue } \\
79 \text { th Street } \\
\text { Manchester }
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& \text { Arbor Vitae - 92nd } \\
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\text { Century Boulevard } \\
\text { 108th Street }
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& \text { 135th Street } \\
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Sc-3

| WEEK OF MAY , 1975 |
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| North South Total |

PASSENGERS THRCUGH SCREEN LINE - VERNON AVENUE
LOCATION CHECKED

| $\begin{array}{r} \text { PR } \\ \text { North } \end{array}$ | $E-G$ <br> South | I D Total |
| :---: | :---: | :---: |
| 252 | 88 | 340 |
| 1,119 | 514 | 1,633 |
| 277 | 161 | 438 |
| 1,415 | 846 | 2,261 |
| 1,284 | 946 | 2,230 |
| 602 | 349 | 951 |
| -.653 | 1,285 | 3,938 |
| 734 | 315 | 1,049 |
| 5,564 | 3.187 | 8,751 |
| 463 | 272 | 735 |
| 1,973 | 1,172 | 3,145 |
| NL | NL。 | NL |
| 2,998 | 2,095 | 5,093 |
| 9, 334 | 11,230 | 30,564 |



PASSENGERS THP OUGH SCREEN LINE - MANCHESTER BOULEVARD


| 9,101 |
| :--- |

Manchester -- Maie Street
Compton Avenue
Central Avenue
Avalon Boulevard

San Pedro Str' $t$

Broadway

Figueroa Street

Vermont Avenue
Normandie Avenue
Firestone -- Fir

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\text { Imperial Highway -- Mona Boulevard } \\
& \text { Wilmington } \\
& \text { Compton Avenue } \\
& \text { Central Avenue } \\
& \text { Avalc Joulevard } \\
& \text { Broadway } \\
& \text { Figueroa } \\
& \text { Vermont Avenue } \\
& \text { Van Ness } \\
& \text { Normandie } \\
& \text { Western Avenue } \\
& \text { Crenshaw Boulevard }
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YUESTICNNAIRE SURVEY SUMMARY \begin{tabular}{lr}
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No \& $23 \%$ <br>
Word of Mouth \& $32 \%$ <br>
Newspapers \& $18 \%$ <br>
A dio/TV \& $23 \%$ <br>
Leaflets to your home \& $7 \%$ <br>
Literature on bus \& $22 \%$ <br>
RTD Information teams \& $9 \%$ <br>
at shopping centers \& <br>
etc. \& $74 \%$ <br>
Yes \& $26 \%$ <br>
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Yes \& $62 \%$ <br>
No \& $38 \%$ <br>
Yes \& $93 \%$ <br>
No \& $7 \%$ <br>
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Less? \& $36 \%$ <br>
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Answnrs \& $\begin{array}{c}\text { Aggregate } \\
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No \& $23 \%$ <br>
Word of Mouth \& $32 \%$ <br>
Newspapers \& $18 \%$ <br>
N dio/TV \& $23 \%$ <br>
Leaflets to your home \& $7 \%$ <br>
Literature on bus \& $22 \%$ <br>
RTD Information teams \& $9 \%$ <br>
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Answnrs \& $\begin{array}{c}\text { Aggregate } \\
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No \& $23 \%$ <br>
Word of Mouth \& $32 \%$ <br>
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Leaflets to your home \& $7 \%$ <br>
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Answnrs \& $\begin{array}{c}\text { Aggregate } \\
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Sou h entral Grid System Questions

1. Are you aware that changes in
bus routes were made to put in
a Grid bus service tris March?
2. If you are aware of tr 3 new Grid
System, how did you tind out
about it?

## 3. Did you use the bus system before January?

4. If you were a bus rider before

5. Can you reach most destinations easily with the new Grid bus service?
6. If you were a bus rider before
Questionnaire（continued）

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$790 \mathrm{n} \quad 384 \mathrm{~s}$
$954 \mathrm{e} \quad 1010 \mathrm{w}$
$304 \mathrm{e} \quad 336 \mathrm{w}$

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& \text { Round } \\
& \text { Trip }
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## SOUTH CENTRAL GRID SYSTEM

## Extension and Modifications:

The JATAC has investigatid̀ several factors involving the extension and expansion of the grid system to the areas immediately adjacent to tie South Central grid project area. In addition a comprehensive program is being developed by which duplication of service will be reviewed and eliminated if study findings so warrant. This phase of the JATAC program is contingent on the continued support of the South Central Grid System by the County Board of Supervisors.

The studies to present. by JATAC, have resulted in the following recommendations in the South Central project area:

1. Recommendation: Line 137, Imperial Highway, be extended on 60 minute frequency to the southside of Los Angeles International Airport along Imperial Highway, Pershing Drive to Manchester Avenue. This extension totals 3.6 miles. One additional bus is required at an estimated cost of $\$ 69,000$ per year.
2. Recommendation: Extension of Line 7 from its present te ininal at ll6th Street and Athens Way to El Segundo Brilevard. The extension will provide additional connections with east/west lines and provide better sayover iacilities for the operators. No additional wuses required for the extension.
3. Recomrendation: Study odifications to the Line 85, Crenshaw-Vine-LaBrea. 't'hree study alternatives are $\because$ rposed: (I) Extension of Line 85 along LaBrea Avenue from Coliseum and LaBrea to the City of Inglewood (Manchenter and Market). This extension totals 4.6 miles round trip. Four additional peak hour buses would be required at an estimated annual cost of $\$ 276,000$. Base period service would be provided at 20 minute frequencies. (2) Extension of Line 85 along Crenshaw Boulevard to Artesia Boulevard. This extension totals 4.0 miles round trip. One additional bus would be required for service at 20 minute intervals. Concurrent with the extension of Line 85 would be the cut-back of Line 101 at El Camino College and service reduction from 30 minute frequencies to 60 minute intervals between South Bay Shopping Center and El Camino College. The shorting of Line 101 would release two buses. The net savings on this
alternative is esti rated at $\$ 69,000$. (3) Extension of both legs of Lin. 85 and separation of the legs to create two lines --.. one line to operate essentially on LaBrea Averue and the second line to operate on Crenshaw Boultvard. This third alternative would eliminate the operational problems which would be created by alternatives 1 and 2 due to the excessive length of the Line 85 , but will require additional buses and increase operating costs.
4. Recommendation: A new line will be implemented on Prairie Avenue between Florence and Prairie and the South Bay Shopping Center at Artesia and Hawthorne. Concurrent with the implementation of this line would be the termination of duplicated portions of Lines 10 and 104 on Prairie Avenue. The new line would be 3.0 miles one way and operate on 30 minute frequency. Three buses would be required at an estimated annual cost of $\$ 207,000$. No equipment requirement changes are proposed for Lines 10 and 104.
5. Rc. smmendation: Reroute Line 357 to operate via Hr رper Avenue instead of Central Avenue between 95 th and Hoorer to Olympic Boulevard and Hooper. tne line would no longer go into downtown Los Angeles. 'his new routing would be shorter by 2.5 miles one way. The shorter routing would release two buses from the line operatio: for an annual savings of about \$138,000.
6. Recommandation: Express service on the Harbor Freeway between Division 18 at 190th Street and Harbor Freeway and downtown Los Angeles. The Line 37 would be modified to provide the service. Twelve buses would be required $\cdot n$ provide 10 minute frequency service. The route ristance is approximately 8.0 miles one way. The estimated cost of operation is $\$ 828,000$.

A continuing program of studies of extensions and modifications and investigations of complaints and request for services by the JATAC will continually update the above listed projects.


[^0]:    Excluding Firestone and Fir
    

