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STATE OF CALIFORNIA
TRANSPORTATION AGENCY
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

TRAFFIC NOISE EVALUATION
BEVERLY HILLS FREEWAY - PLAN 2
DESILU & PARAMOUNT STUDIOS

August 1967

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State of California
Department of Public Works
Division of Highways
Materials and Research Department

August 1967

Your File: 07-LA-2-2.3/11.5
Beverly Hills Freeway Between
Ardmore Ave. and San Diego Frwy.
District W/O 07203-031101
Lab W.O. 19605-762550-36411

Mr. A. C. Birnie
Deputy District Engineer
District 07

Attention: Mr. Leo J. Trombatore
Assistant District Engineer

Dear Sir:

Submitted in response to your letter of May 1, 1967, is a report of:

TRAFFIC NOISE EVALUATION

BEVERLY HILLS FREEWAY - PLAN 2

DESILU & PARAMOUNT STUDIOS

Study by . . . . . Structural Materials Section

Under general direction of . . . . . .E. F. Nordlin

Unit supervisor . . . . . .J. E. Barton

Noise measurements and report by . . . . . Louis Bourget

Very truly yours,

JOHN L. BEATON
Materials and Research Engineer

LB:jlt

Attachment

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ACKNOWLEDGEMENTS

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- Exhibit 2. Truck Noise near Elevated Freeways
- D-1 through D-5, P-1 through P-4. Noise Recordings

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ACKNOWLEDGEMENTS

We gratefully acknowledge the cooperation and assistance of Mr. Russ Brown, Operations Manager, Paramount; Mr. Bruce Denny and Mr. Henry Fracker, Sound Department, Paramount; Mr. Glenn Farr, Superintendent of Production, Desilu; and the following District 07 Engineers: Mr. John Webster, Mr. Paul In, and Mr. Jesse M. Reynolds.

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INTRODUCTION

This study was made pursuant to a letter dated May 1, 1967, from Mr. A. C. Birnie, Deputy District Engineer, by Mr. Leo J. Trombatore, Assistant District Engineer, District 07, to Mr. J. C. Womack, attention Mr. J. L. Beaton and Mr. Nordlin.

The request was prompted by the understandable concern, at Paramount and Desilu Studios, about the effects that vehicle noise emanations from the proposed Beverly Hills Freeway, Plan 2, might have on their sound recording activities.

Definition of the Problem

On May 17, 1967, a preliminary examination was made of the Desilu (West) and Desilu-Paramount (East) studios and their exposure toward the proposed freeway. At that time Mr. Bruce Denny, Assistant Recording Head of Paramount Studios, described some of the many problems involved in obtaining natural sounding recordings for motion pictures. One of the worst hazards is the intrusion of foreign noises that can ruin an otherwise good take. A faulty recording can be replaced by the technical process known as looping, but this raises the costs of production. These sound replacing costs can become prohibitively expensive when high salaried people must be called in for sound retakes. This is especially true on weekends when overtime costs soar. Another difficulty is that the actors may no longer be available due to other commitments. Therefore, it is vital to the economics of studio operation that low noise conditions be maintained, as often as possible, during the actual photography.

Logic and Premise

The studios are evidently able to hold their present looping costs within reasonable limits, even though the noise from adjacent city streets is a persistent problem. Were this not true, the studios would probably be moving to more favorable locations, rather than making the many improvements noted on their existing sites. It is therefore rational to assume that the existing noise from city traffic must represent a tolerable condition, even though far from an ideal one. It also follows that the noise from the proposed freeway (which is predictable for worst case conditions from diesel trucks) should not present an increased noise hazard if it will be less than the present noise from local city traffic. This report presents samples of local city traffic noise recordings that were made at discrete locations along the boundaries of the studios. These peak noise intensities are compared with the predictable loudest noises radiated by diesel trucks on elevated freeways similar to the proposed freeway according to Plan 2.

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It is worth noting that the predictable maximum freeway noise figures employed for this comparison are based on the measured levels recorded in open terrain, with no buildings or earth obstructions and realistically include many diesel trucks having no mufflers whatever.

NOTE: The two studio areas from left to right on the map, Exhibit 1 in the appendix, are Desilu (west), then Desilu (east) and Paramount. The discussion generally follows this same order. No ranking according to protocol is intended and none should be inferred.

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SUMMARY

Findings

The results of all noise tests at the boundaries of the studios appear favorable to the proposed freeway, Plan 2. The noise tests were made at the most vulnerable points along the protective walls. Every test indicates that the existing local traffic generates higher peak noise values than can be expected from trucks on the completed proposed freeway. There should be no rise in noise penetration to the sensitive interiors of the studios, above that now experienced from other sources. In fact, some benefit may result. The proposed freeway will offer a time saving and more distant parallel route for many of the vehicles now using Melrose Avenue.

Suggestions

The possible noise from construction equipment employed on the proposed freeway during construction is another problem. However, we believe that the noise from tractors, earth movers, trucks, and other construction equipment can be sensibly controlled.

The first suggestion is to insert a noise clause under special provisions in the construction contract: "Each piece of equipment operated by an internal combustion engine shall be equipped with a muffler capable of reducing the exhaust noise level to 86 DBA or less at a distance of 50 feet. The muffling requirement shall apply to all equipment on the job, such as trucks, transit mixers or transient equipment that may or may not be owned by the Contractor. The use of loud sound signals shall be avoided in favor of light warnings except for those required by safety laws for the protection of personnel". (A similar clause has been inserted in some District 04 contracts.) Other types of construction equipment capable of being quietened--should be. For example, air compressors should be equipped with air intake silencers. Pile driving should be barred in favor of cast and drilled hole concrete pile foundations if otherwise feasible. Machines or operations that develop screeching, rattling or other offensive noises should be corrected to reduce the noise to acceptable limits (86 DBA at 50 feet). Structural steel and other supplies delivered to the jobsite should be lowered, not crashed, to the ground. Any high noise operation that cannot be quietened should be coordinated between the Contractor, the Resident Engineer, and the Studios to avoid conflict with picture-making schedules.

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The second suggestion is to route all heavy transient construction vehicles away from the studio boundary streets.

These precautions should greatly reduce the noise radiation to the studios and to residences and offices adjacent to the construction zone. In that sense, noise control at the site is desirable on any construction job in an inhabited environment.

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NOISE MEASUREMENTS

Equipment and Method

All measurements were made with a General Radio Sound Level Meter employing the A weighting network for a readout in decibels A scale (DBA). This is a current standard practice for evaluating motor vehicle noise and has been accepted by the Acoustical Society of America and the International Standards Organization.

The output of the sound level meter was coupled to a General Radio Graphic Level Recorder to furnish strip chart recordings of the noise measurements. Calibration of the system was performed prior to every recorded run.

Locations of Tests

A map is offered in the appendix as Exhibit 1. This identifies the (west) Desilu Studio and the (east) Desilu-Paramount Studios and their positions relative to the proposed freeway, Plan 2. Each location employed for measuring the noise from existing local traffic is boldly identified.

Truck Noise Experience Near Elevated Freeways

Exhibit 2 is a reliable chart for predicting the loudest noises from diesel trucks that will occur at any distance from the proposed type of elevated freeway. This chart is based on field experience from measurements obtained in open flat terrain with the vehicles in full view. The chart has been checked at frequest intervals over the past 7 years and has withstood the test of time. The footnote marked * on the chart allows for the noise barrier effect of buildings or earth contours.

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Location	Local Traffic Noise DBA	Truck Noise Experience Elev. Freeways DBA	Exposure to Freeway
D-1 Desilu (West)	71 to 88	61 to 71	Open via Cahuenga Blvd.
D-2 Desilu (West)	60 to 72	58 to 68	Open via Lillian Way
D-3 Desilu (East)	75 to 86	56 to 66	Open via Gower Street
D-4 Desilu (East)	75 to 85	61 to 41	" "
D-5 Desilu (East)	75 to 84	60 to 70	Open via Beachwood Dr.
P-1 Paramount	65 to 78	(55 to 65) 45 to 55	(-10) Shielded by buildings
P-2 Paramount	65 to 83	(55 to 65) 45 to 55	(-10) Shielded by buildings
P-3 Paramount	67 to 79 (Horn to 87)	55 to 65	Open via Irving Blvd.
P-4 Paramount	70 to 80 (Truck to 90+)	(55 to 65) 45 to 55	(-10) Shielded by buildings

All of the test locations now exhibit higher noise peaks from local traffic than can be expected from the proposed freeway. This was the intended goal for Plan 2 and we believe that the goal has been met. Samples of the recorded tests made at each location are offered in the Appendix. Additional comments are offered in Summary.

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20' ELEVATED SECTION

TRUCK PEAK NOISE RANGE OVER FLAT OPEN TERRAIN

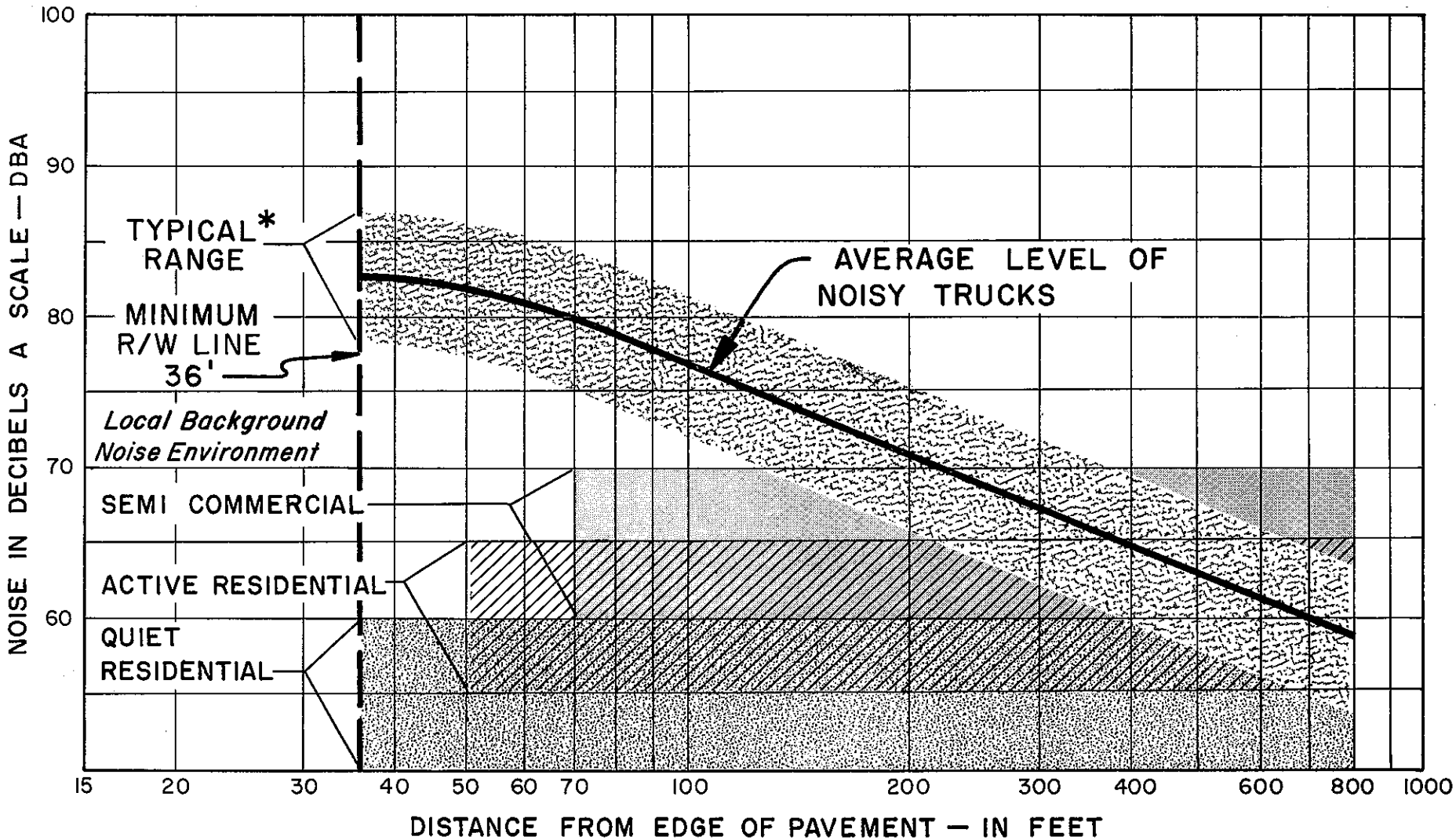

EXHIBIT 2

TRUCK NOISE EXPERIENCE NEAR FREEWAYS ELEVATED ABOVE OBSERVER.

* Subtract 10 to 20 DBA where trucks are hidden by earth contours or buildings; according to the effective height of the shielding.

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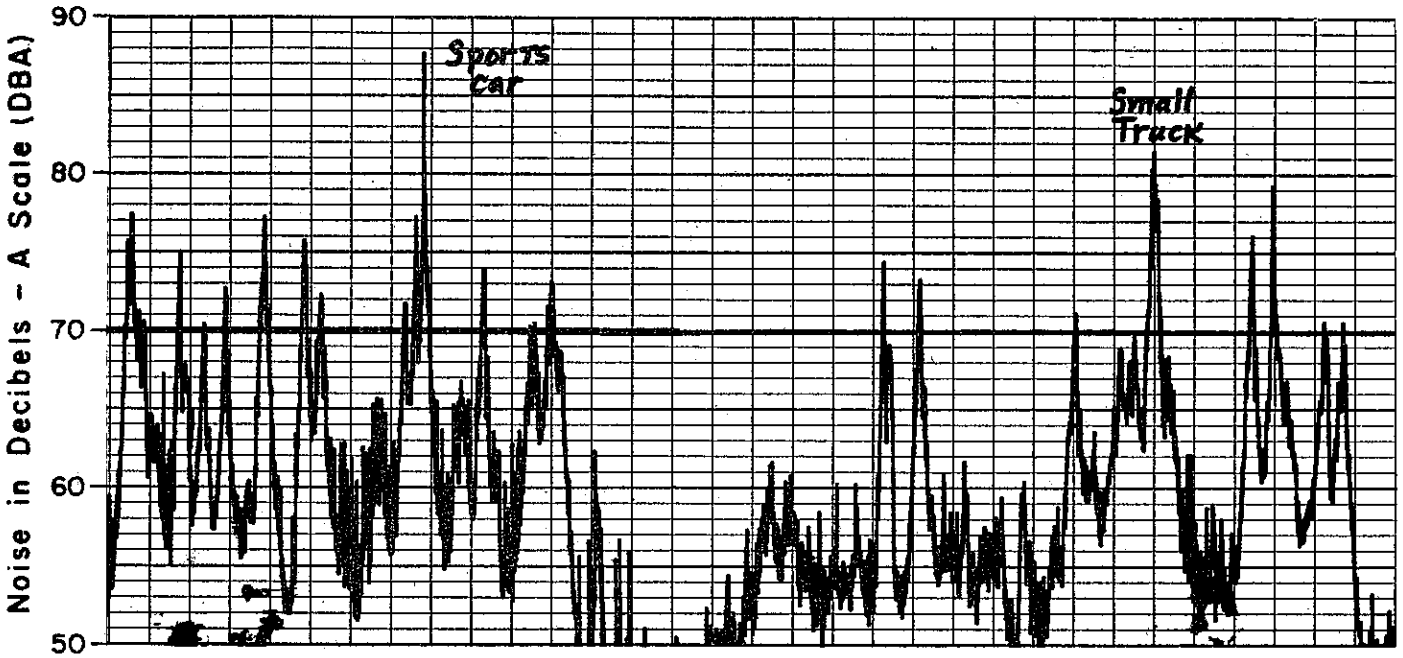

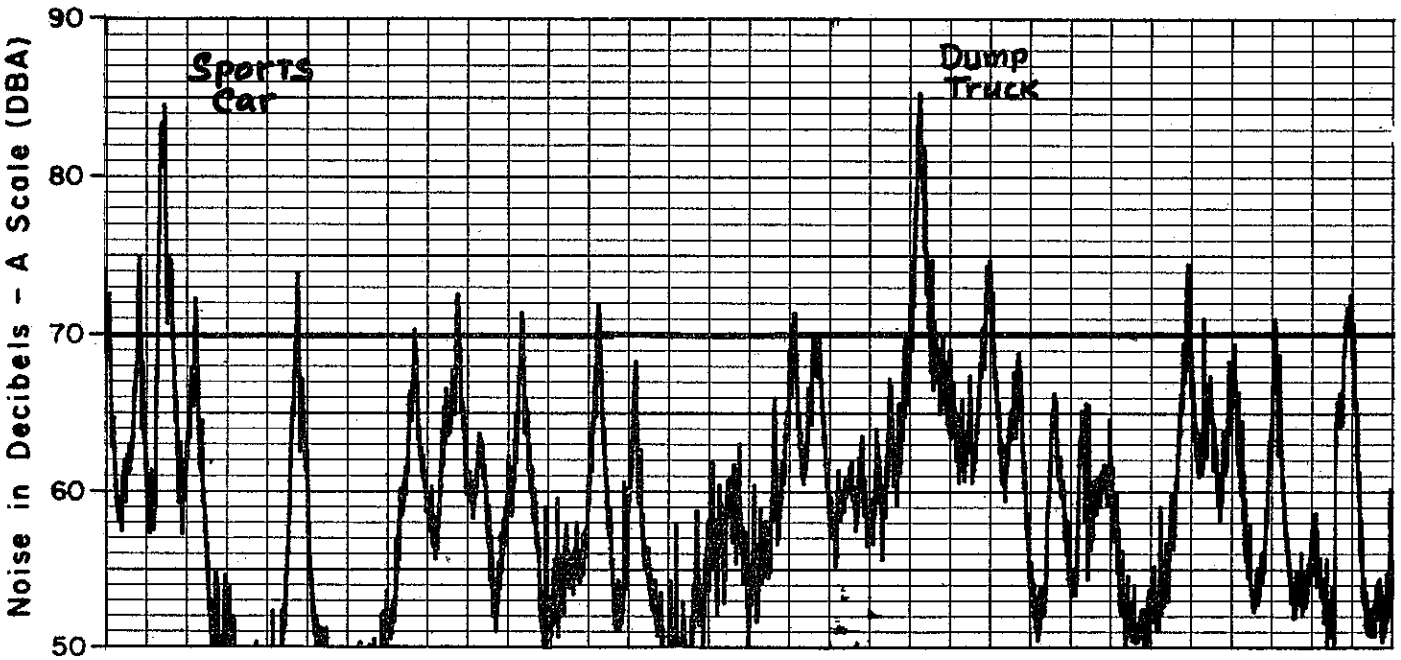

LOCATION D-1 DESILU -- CAHUENGA AT WARING

NOISE PEAKS FROM LOCAL TRAFFIC 71 TO 88 DBA

Freeway Truck Experience 61 to 71 DBA

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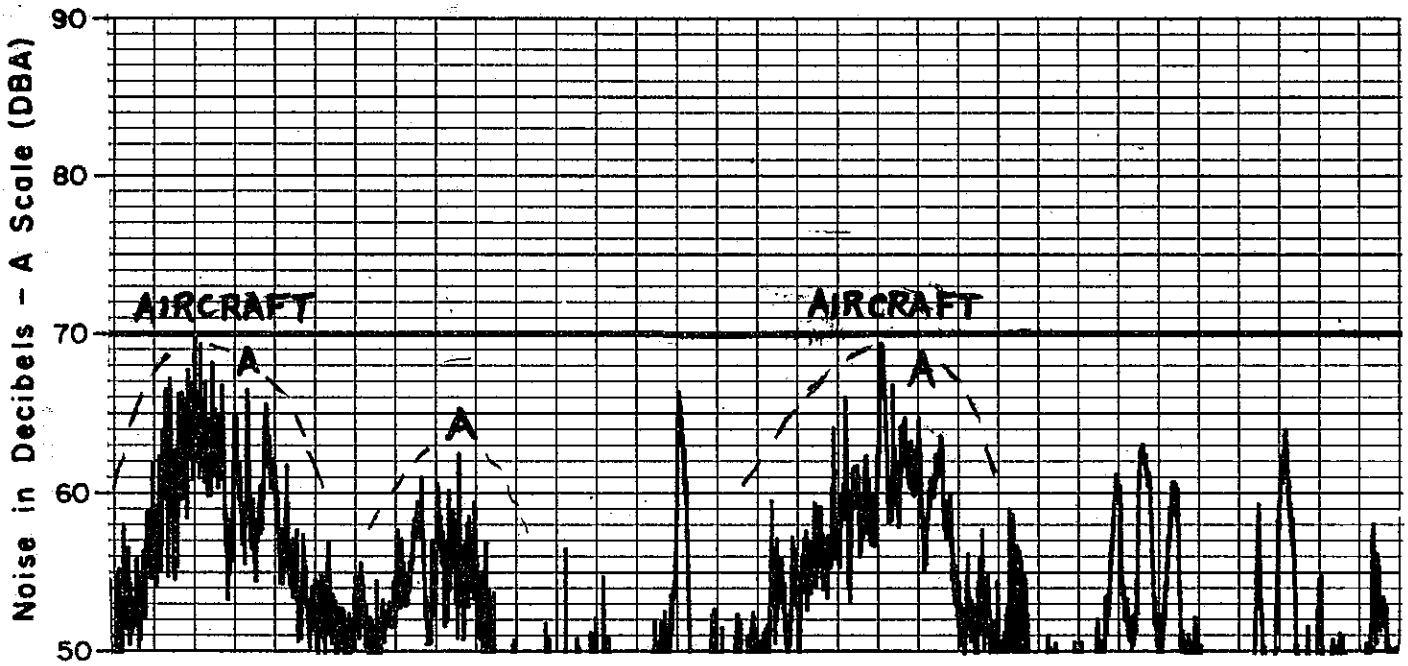

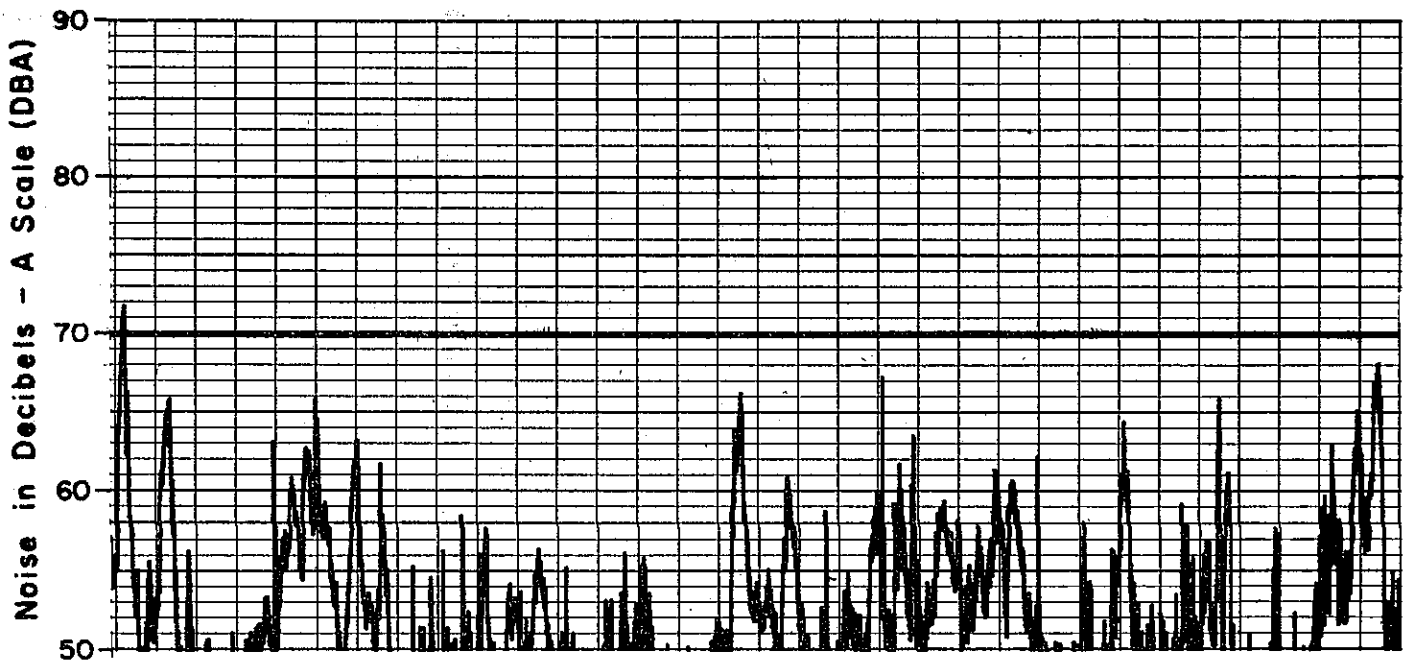

LOCATION D-2 DESILU -- WARING AT LILLIAN

NOISE PEAKS FROM LOCAL TRAFFIC 60 TO 72 DBA

Freeway Truck Experience 58 to 68 DBA

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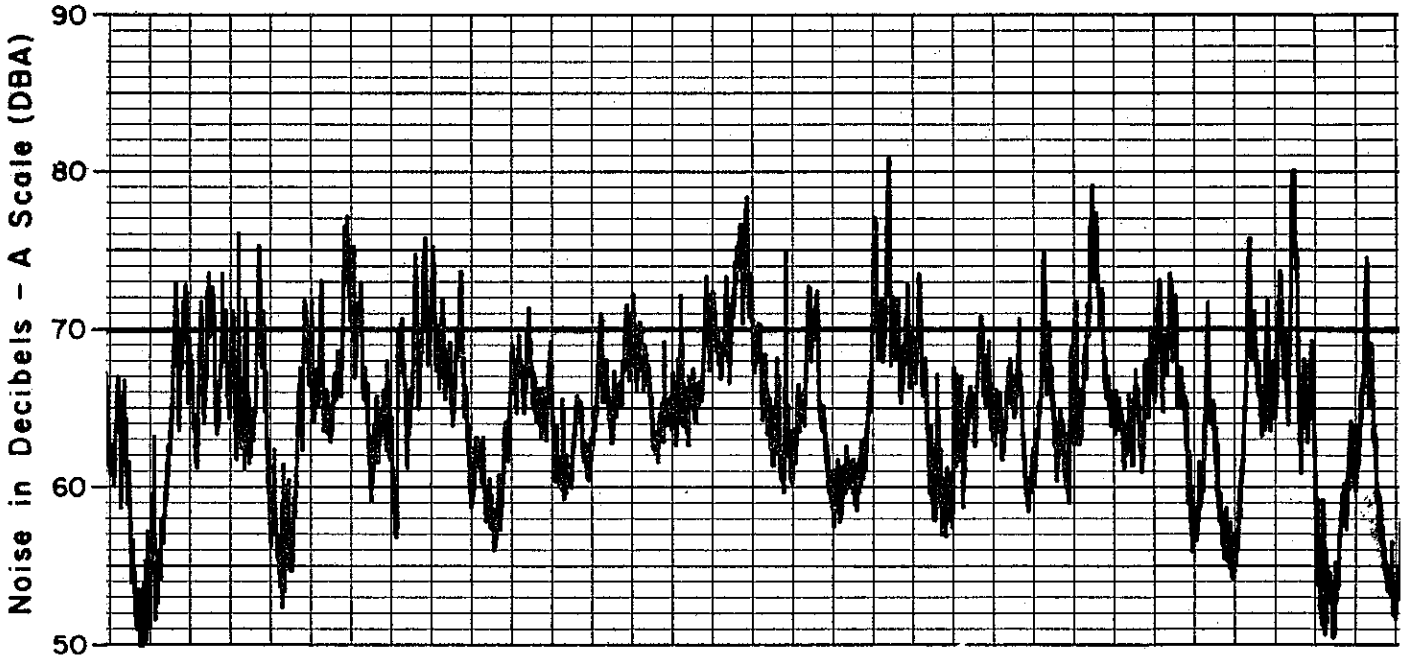

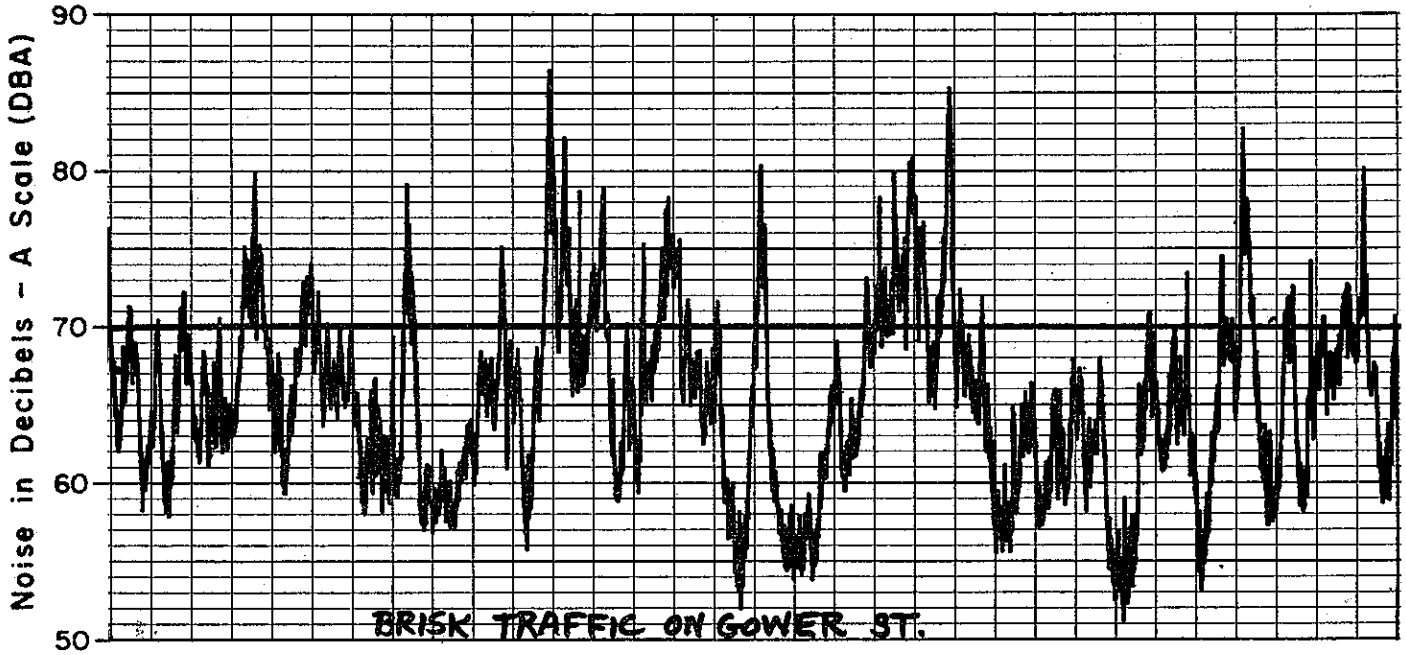

LOCATION D-3 DESILU -- GOWER AT CAMERFORD

NOISE PEAKS FROM LOCAL TRAFFIC 75 TO 86 DBA

Freeway Truck Experience 56 to 66 DBA

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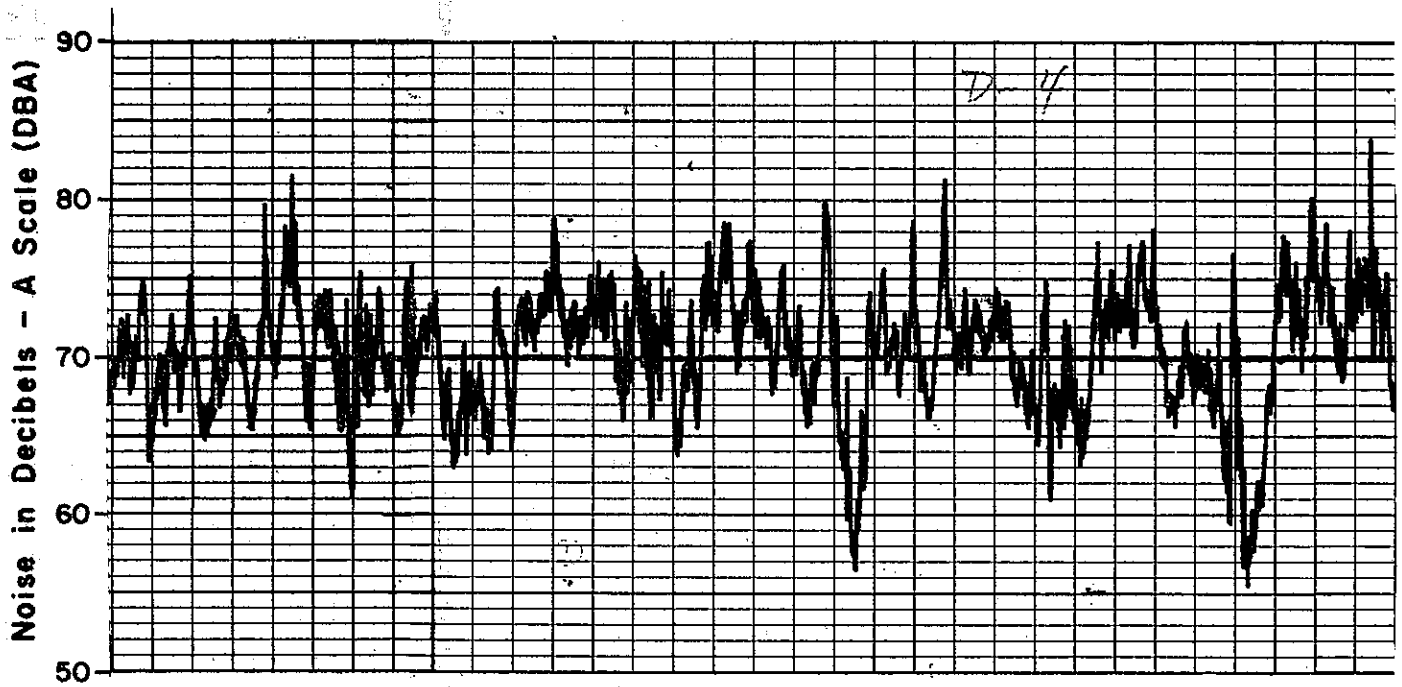

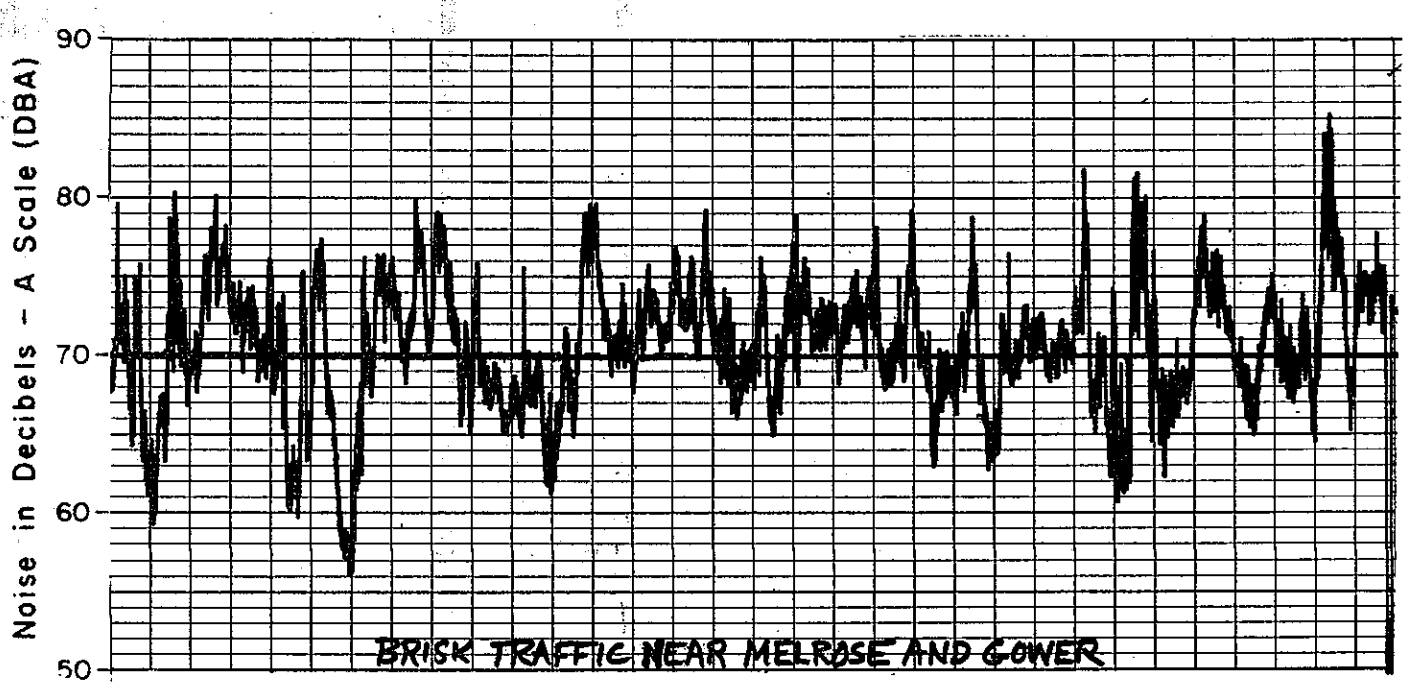

LOCATION D-4 DESILU -- MELROSE AT GOWER

NOISE PEAKS FROM LOCAL TRAFFIC 75 TO 85 DBA

Freeway Truck Experience 61 to 71 DBA

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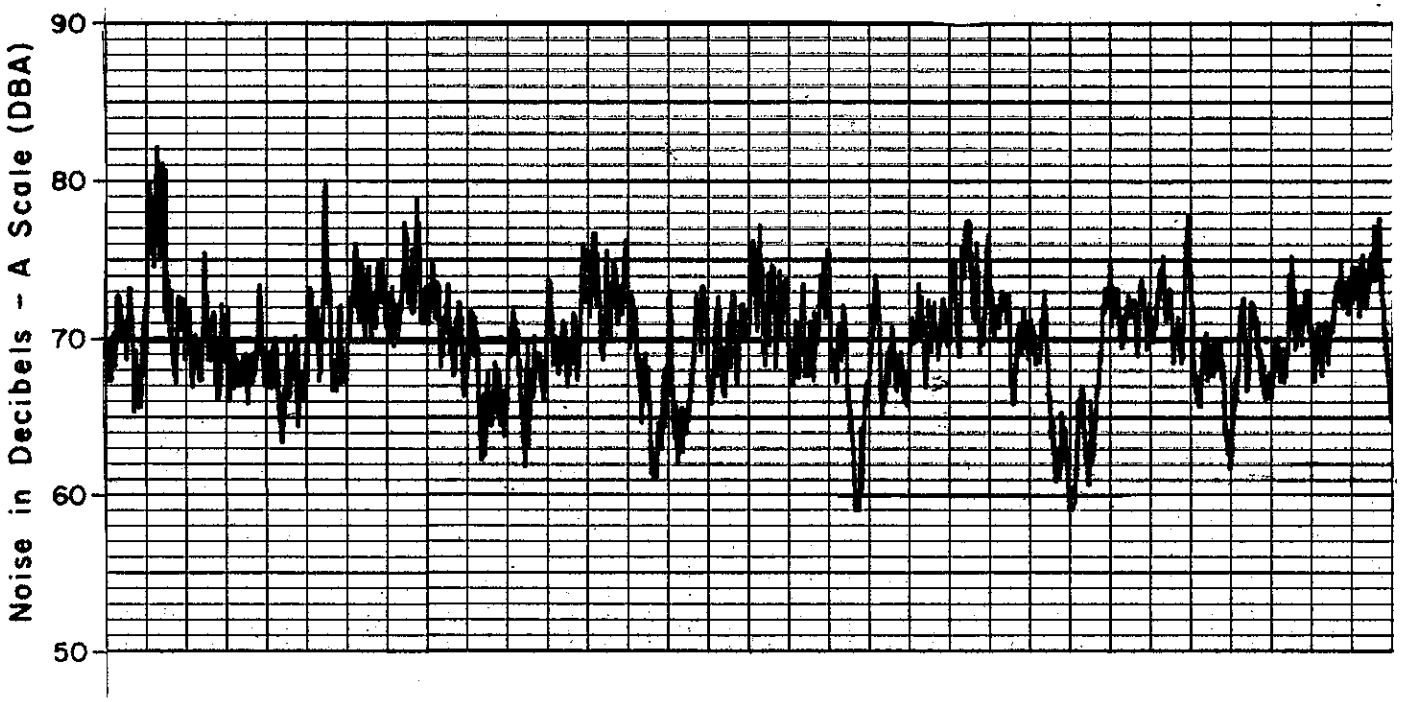

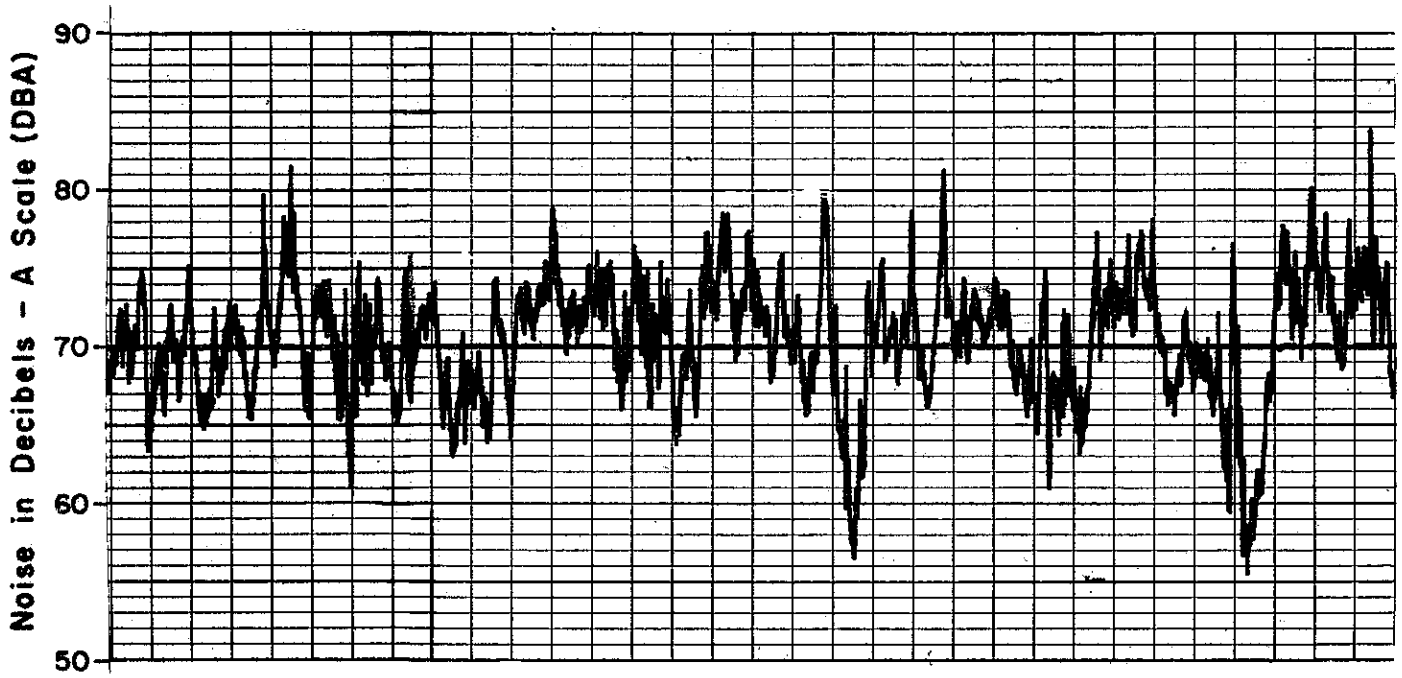

LOCATION D-5 DESILU -- MELROSE AT GOWER

NOISE PEAKS FROM LOCAL TRAFFIC 75 TO 84 DBA

Freeway Truck Experience 60 to 70 DBA

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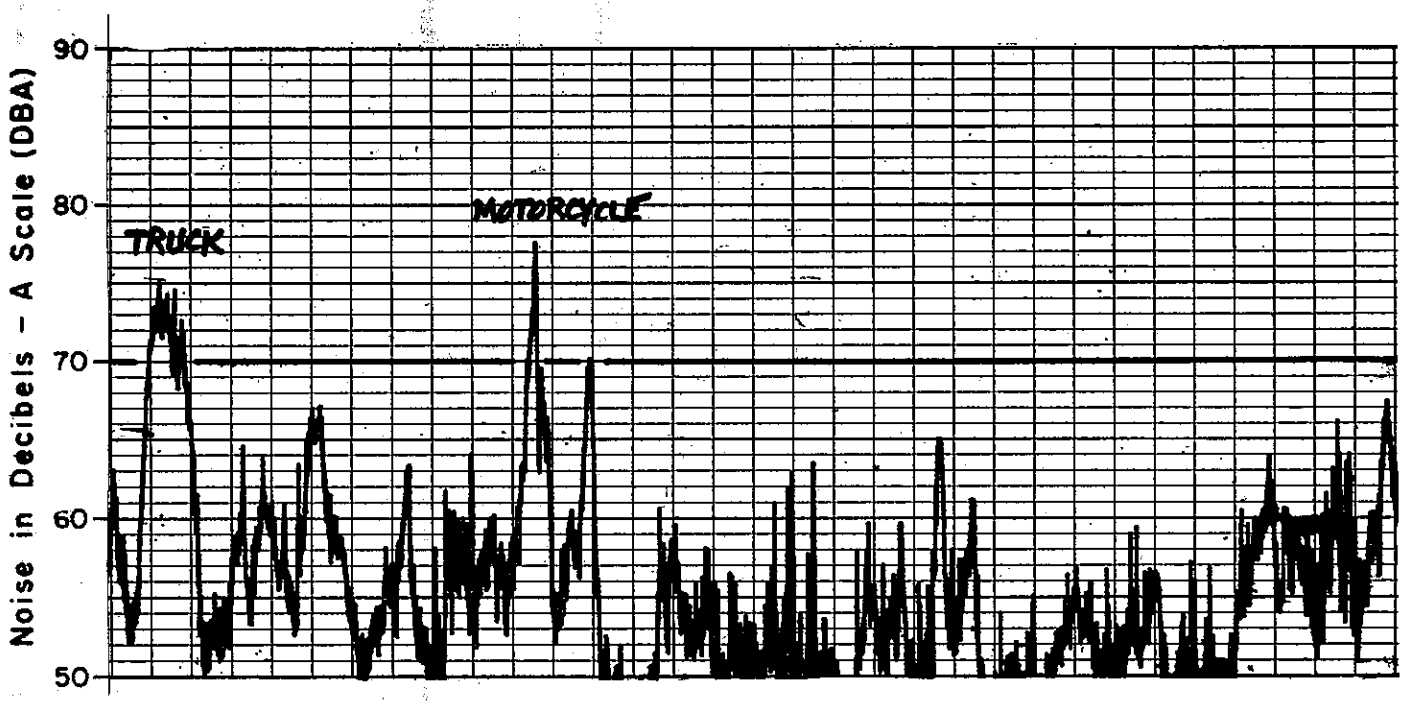

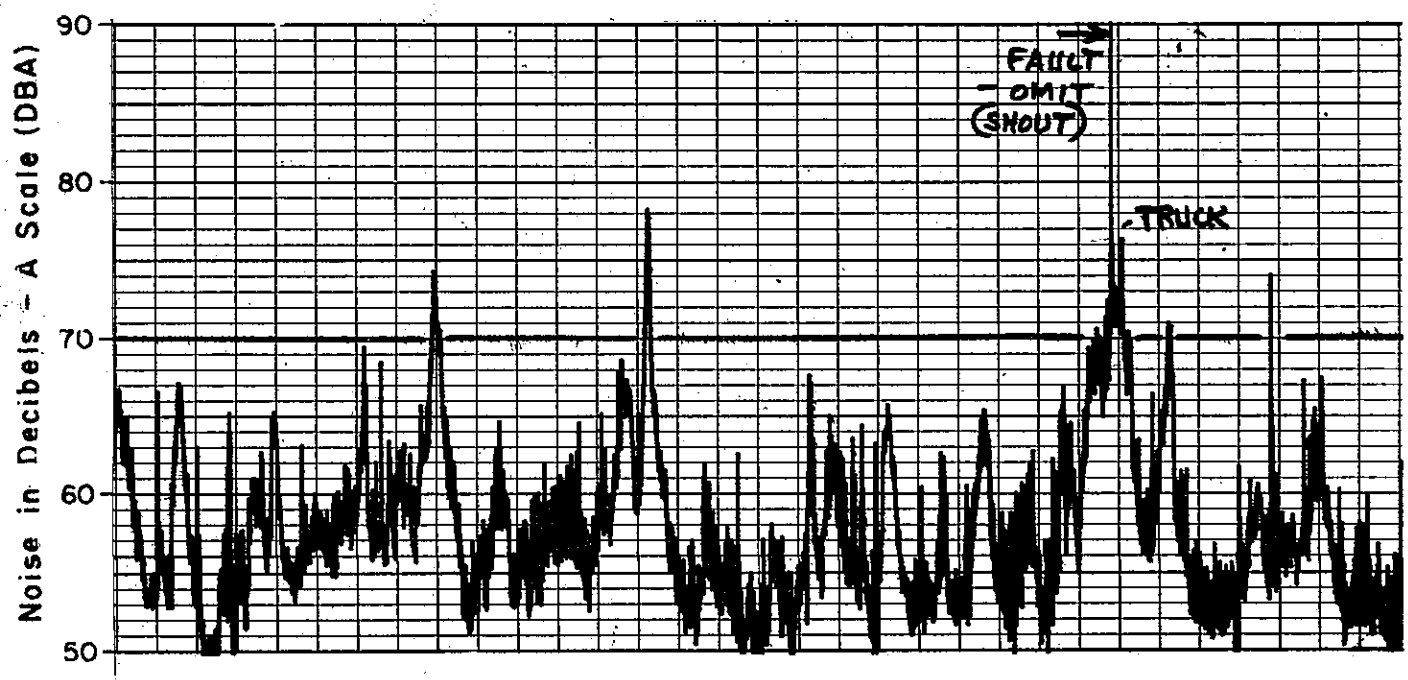

LOCATION P-1 PARAMOUNT -- MARATHON AT WINDSOR

NOISE PEAKS FROM LOCAL TRAFFIC 65 TO 78 DBA

Freeway Truck Experience 45 to 55 DBA

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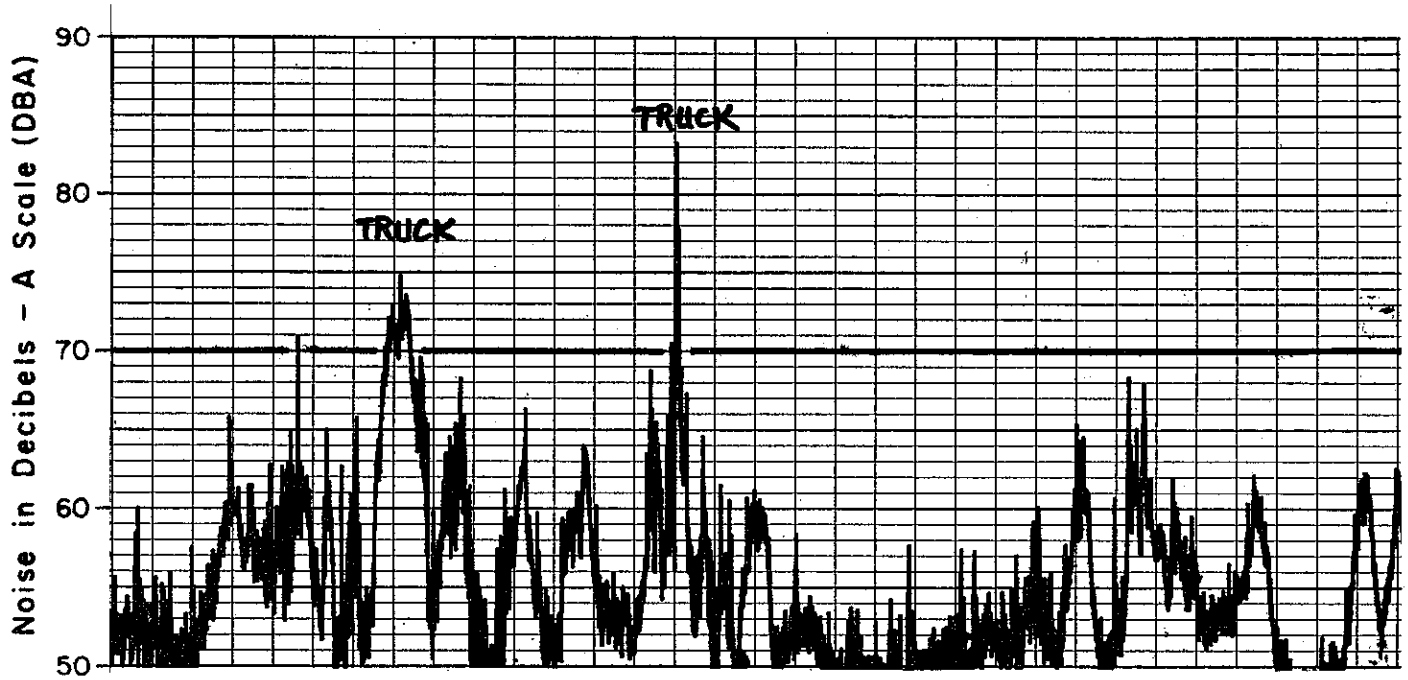

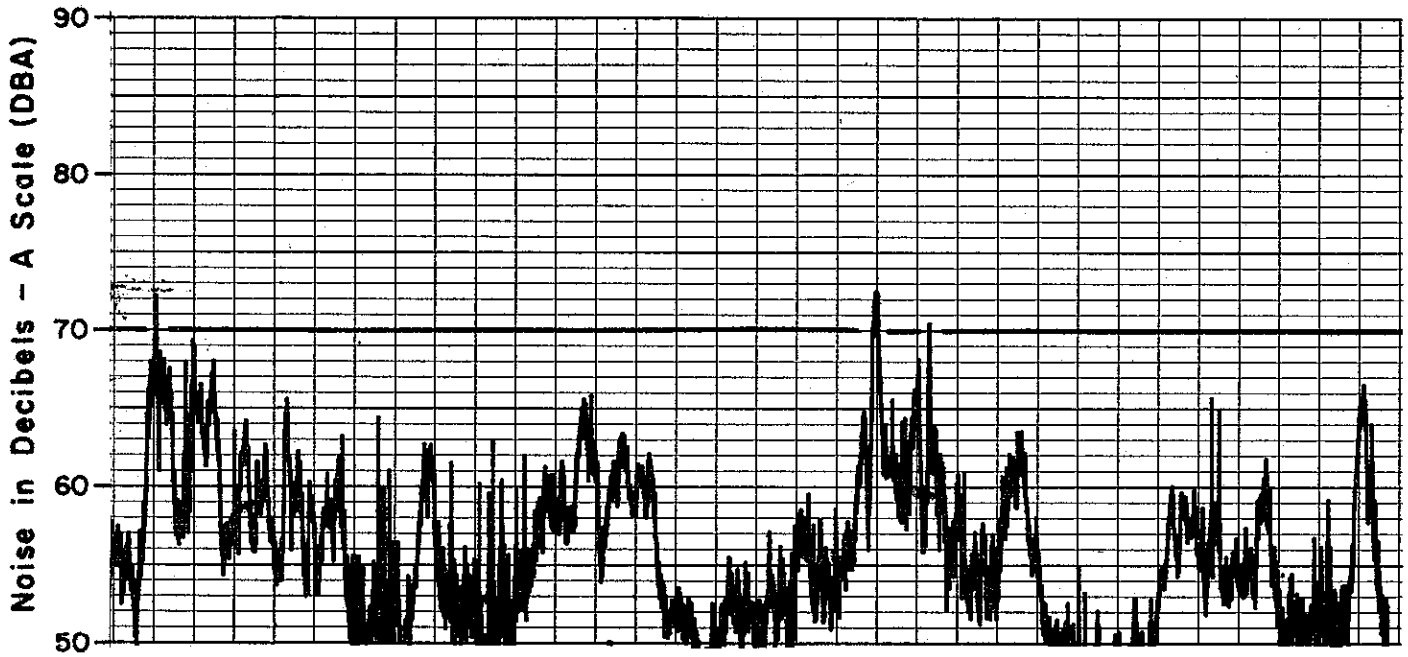

LOCATION P-2 PARAMOUNT -- MARATHON (LOW WALL REGION)

NOISE PEAKS FROM LOCAL TRAFFIC 65 TO 83 DBA

Freeway Truck Experience 45 to 55 DBA

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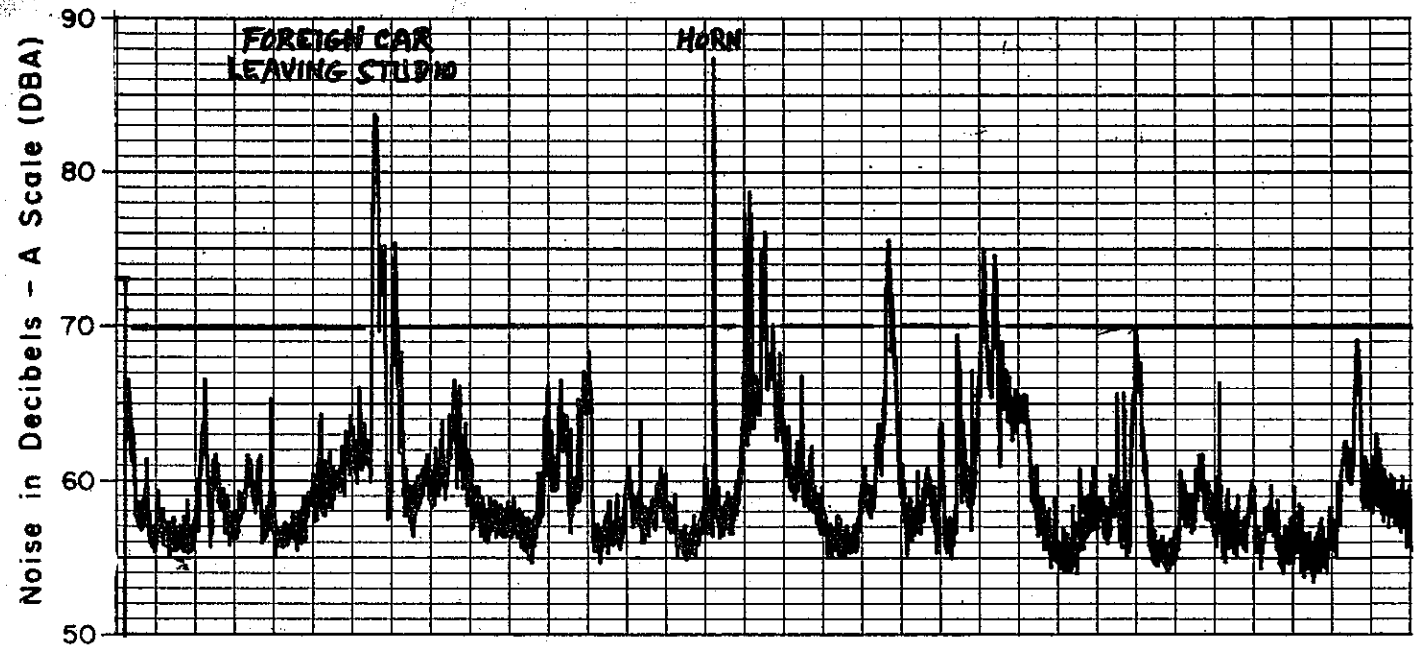

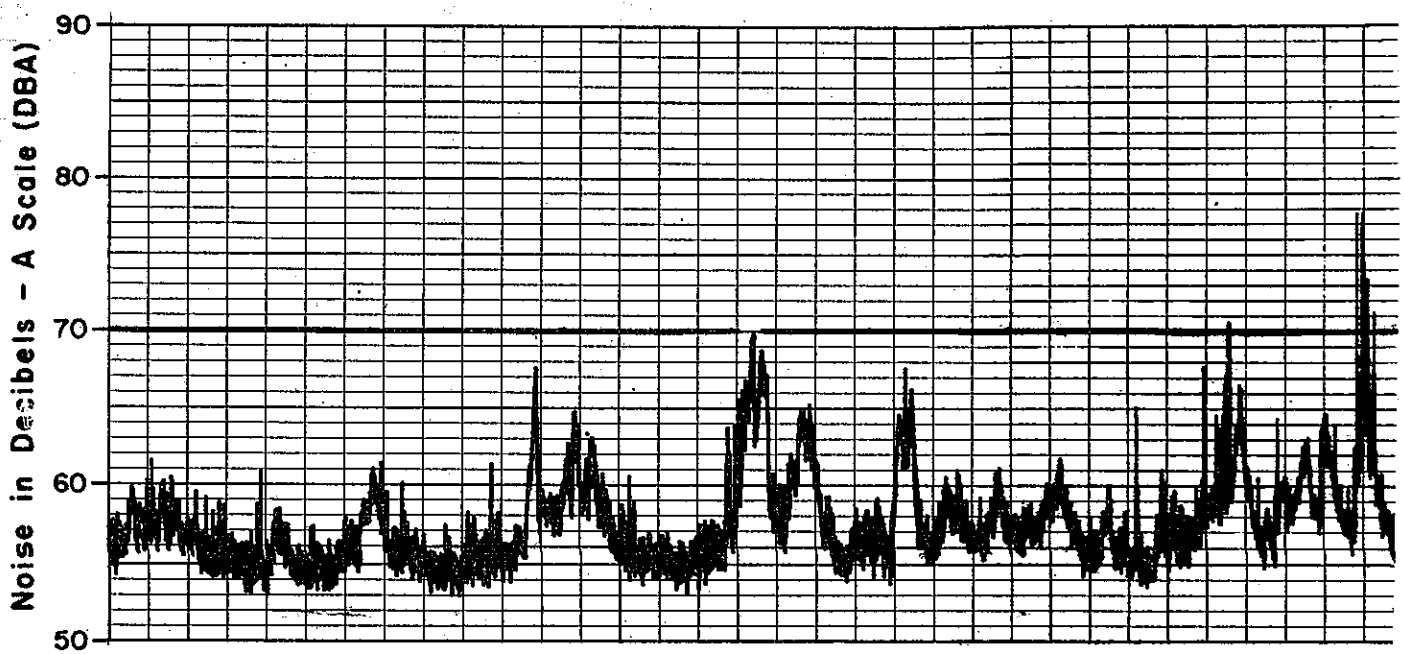

LOCATION P-3 PARAMOUNT -- MARATHON AT IRVING

NOISE PEAKS FROM LOCAL TRAFFIC 67 TO 79 DBA

Freeway Truck Experience 55 to 65 DBA

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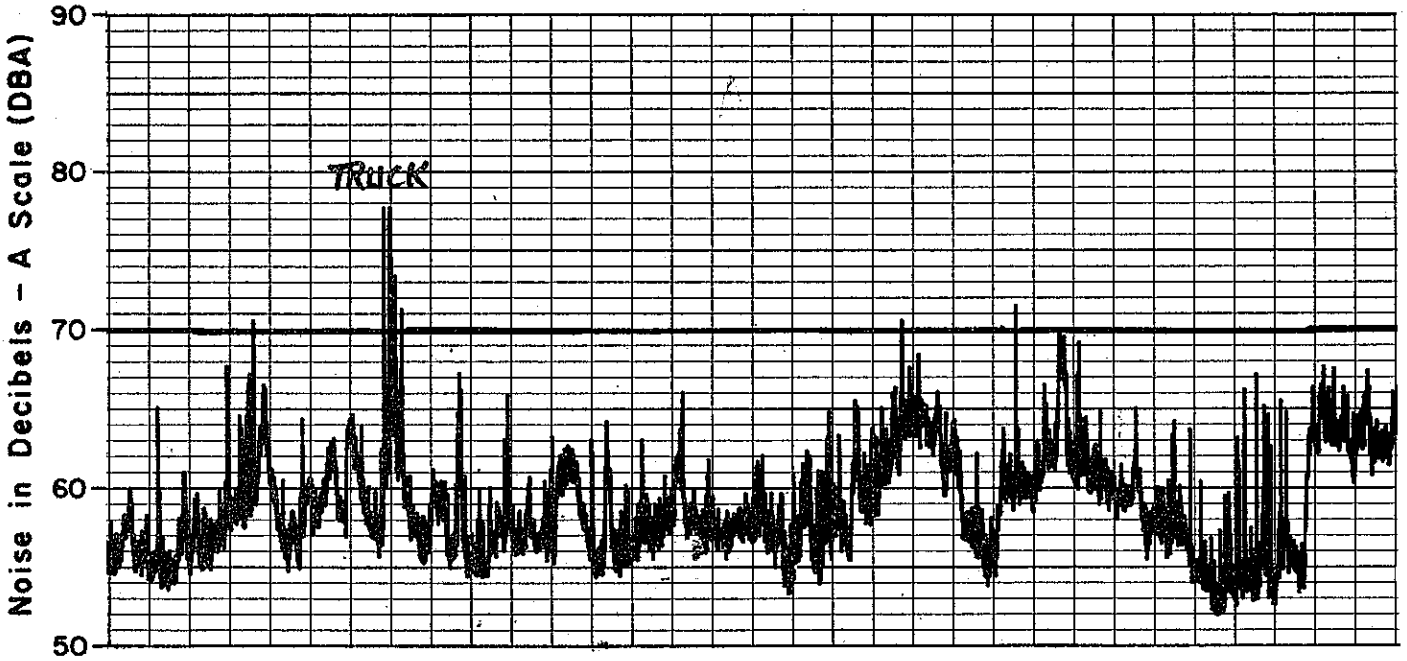

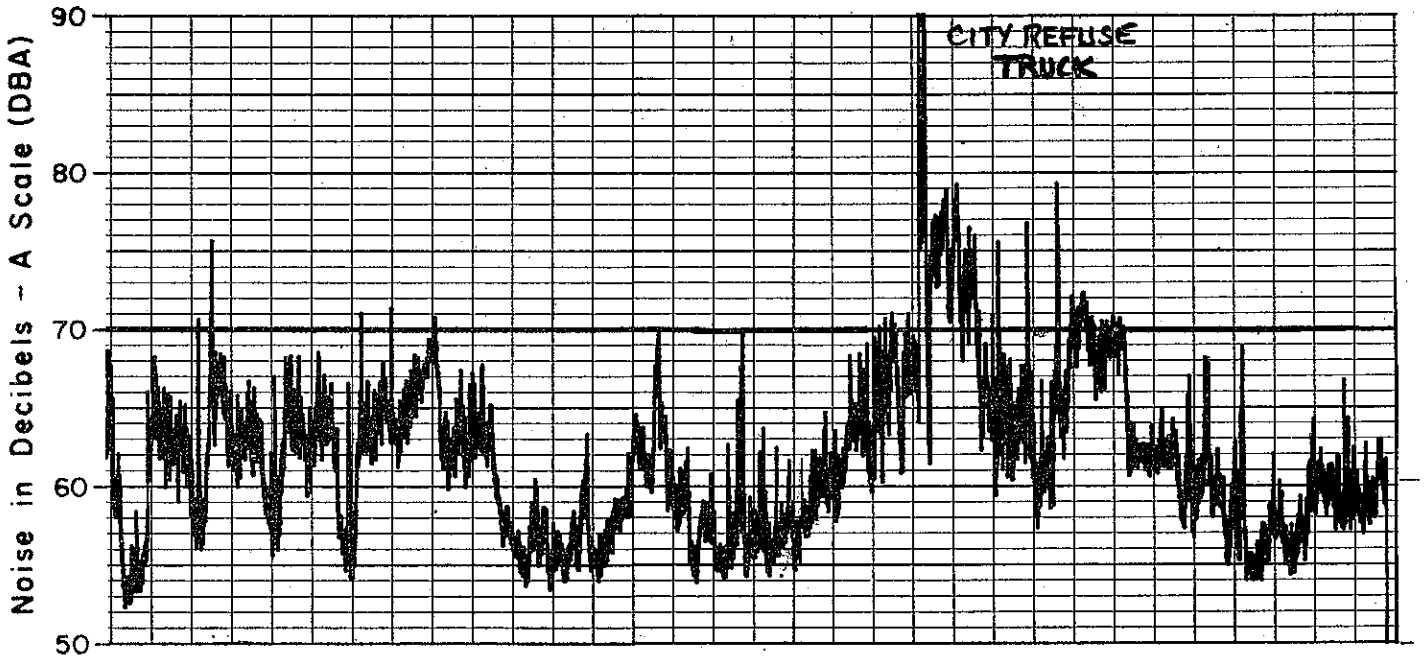

LOCATION P-4 PARAMOUNT -- MARATHON NEAR BRONSON

NOISE PEAKS FROM LOCAL TRAFFIC 70 TO 80 DBA

Freeway Truck Experience 45 to 55 DBA

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