

June 14, 1973

S. F. Cryderman
Engineer of Transportation Planning

Max N. Clyde

M-99 Logan Street, City of Lansing, Noise Study
Research Project 73 TI-162, Research Report R-865, EV-26

L.T.O.

In response to your request of June 5, 1973, we have completed a noise study along Logan Street at a limited number of sites. Actual noise levels were sampled at 10 second intervals for a period of 10 to 20 minutes at various times of the day. From these, L10 (dbA) values were calculated.

Since these locations are very near the roadway, the computer program Q12095/QTANDR is not applicable. Therefore, present and future predictions were made by the use of Research Report R-853R, "Simplified Technique for Traffic Noise Level Estimates" (copy enclosed).

Table I and the map indicate the measured noise levels, locations and time, while Tables II and III summarize the predicted levels for the existing and proposed roadways, respectively. It should be noted that these predictions utilized an average vehicle flow rate, namely 1/24th of the ADT, corresponding to the 8-9 AM and 7-8 PM hour time intervals.

At the interior lots west of Logan Street the noise levels will increase on an average of 15 dbA, due to decreased distance and loss of the shielding by the first row of homes.

Traffic data, other than our vehicle counts, were provided by R. Kinney and D. Trastman of the Environmental Unit.

If a more complete data encompassing a 12 or 24 hour sample period are required, it can be attained.

TESTING AND RESEARCH DIVISION

Max N. Clyde
Engineer of Testing and Research

MNC:GHG:scg
Enclosure

cc: L. T. Gehler
G. R. Adams
D. Trastman

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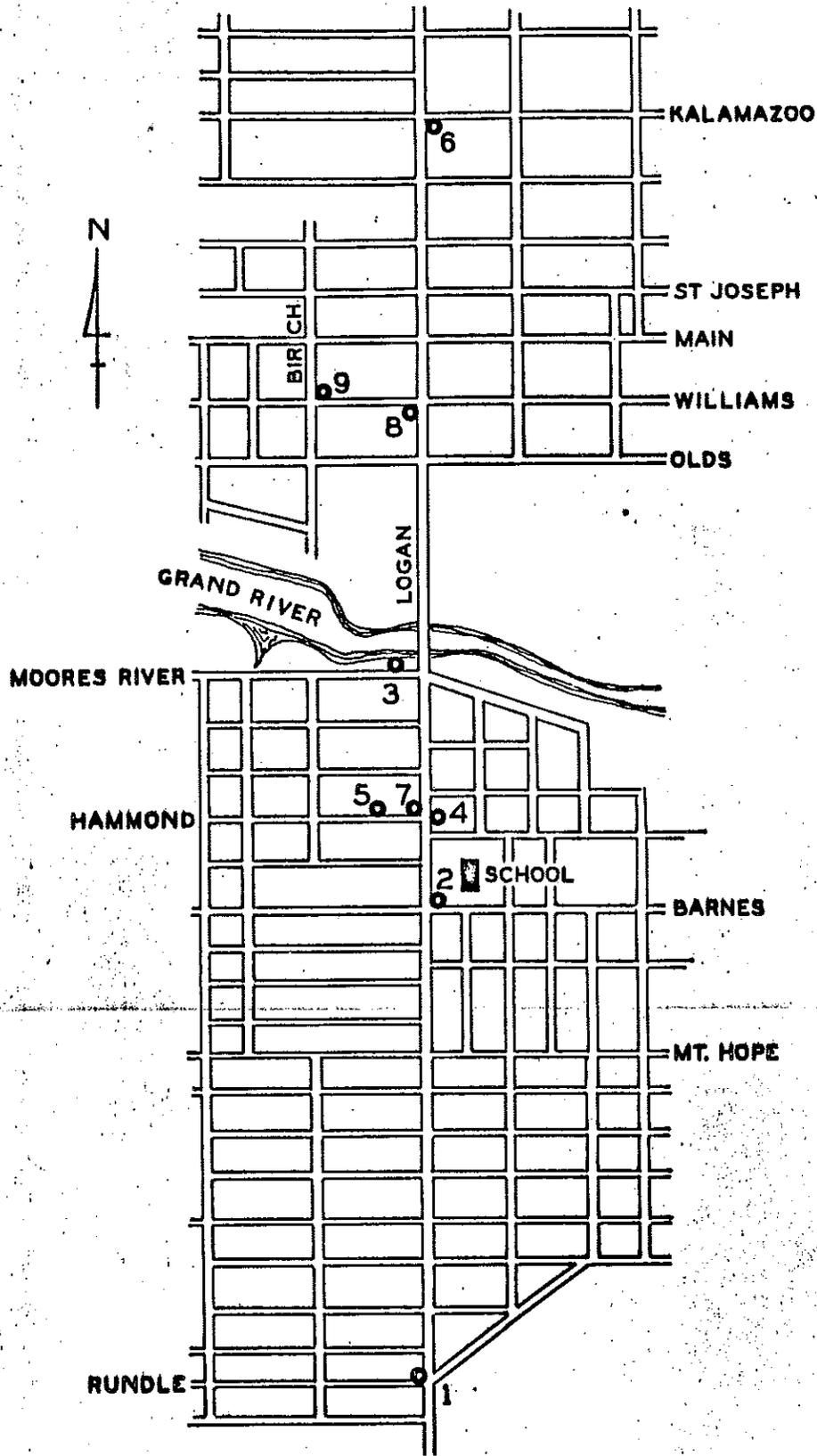
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TABLE I
 Noise Level Measurements
 (Sampled every 10 seconds over a 10-20 minute period)

Site No.	Location & Date	Observer Distance (ft.)	L ₁₀ (dbA)	Peak (dbA)	Ambient (dbA)
1	NW corner Logan & Rundle ⁽²⁾ (6/11/73; 1:35 - 1:48 PM)	83	72.8	90	60
2	NE corner Logan & Barnes (6/11/73; 2:02 - 2:20 PM)	20 to Logan, 20 to Barnes, Traffic Light	76.7	93	58
3	NW corner Logan & Moores River Dr. (6/11/73; 2:50 - 3:04 PM)	266' on sidewalk edge	70.5	75	53
4	E side Logan & Hammond (6/12/73; 7:34 - 7:44 AM)	57	70.6	86	58
5	NW corner Logan & Hammond (6/12/73; 7:49 to 8:02 AM)	153	64.8	72	51
6	SE corner Logan & Kalamazoo (6/12/73; 11:22 - 11:37 AM)	30, Traffic Light	75.2	82	58
7	NW corner Logan & Hammond (6/12/73; 11:58 - 12:10 PM)	30	76.7	86	58
8	SW corner Logan & William (6/12/73; 12:21 - 12:36 PM)	30	75.6	90	57
9	NE corner Birch & William (6/12/73; 11:45 AM)	20 to Birch, 20 to William, Stop Sign	(1)	88	55

(1) Not enough traffic to sample.

(2) Measured a peak of 93 dbA from Lindell Drop Forge at 8:08 AM, 6/12/73.



Logan Street Noise Measurement Sites

TABLE II
 Present Logan Street L10 Noise Levels
 (Predictions from Report R-853R)
 (4 lane, 30 mph, 10% commercial)

A. <u>North of I-496</u>			<u>At Observer Distances</u>	
<u>Year</u>	<u>ADT</u>	<u>Q (veh/hr)</u>	<u>30 feet</u>	<u>75 feet</u>
1971	21000	875	75.4 dbA	68.8 dbA
1977	26000	1080	75.7	69.2
1990	36000	1500	76.3	70.0
1995	37500	1560	76.4	70.1

B. <u>South of I-496</u>				
1971	36000	1500	76.3 dbA	70.0 dbA
1977	41500	1730	76.7	70.4
1990	53000	2220	77.4	71.3
1995	55000	2280	77.5	71.4

C. <u>South of the Grand River</u>				
1971	27000	1130	75.8 dbA	69.3 dbA
1977	33500	1400	76.2	69.8
1990	56000	2330	77.6	71.5
1995	58000	2420	77.7	71.7

TABLE III
Proposed Logan Street L₁₀ Noise Levels
(Predictions from Report R-853R; 3 lane, each side of
median, 35 mph, 10% commercial, volumes evenly divided)

<u>A. North of I-496</u>			<u>At Observer Distances</u>	
<u>Year</u>	<u>ADT</u>	<u>Q (veh/hr)</u>	<u>30 feet</u>	<u>75 feet</u>
1977	26000	1080	77.9 dbA	70.7 dbA
1990	36000	1500	78.1	71.0
1995	37500	1560	78.2	71.0
<u>B. South of I-496</u>				
1977	41500	1730	78.3 dbA	71.2 dbA
1990	53000	2220	78.6	71.7
1995	55000	2280	78.6	71.7
<u>C. South of the Grand River</u>				
1977	33500	1400	78.0 dbA	70.9 dbA
1990	56000	2330	78.7	71.8
1995	58000	2420	78.7	71.8