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PROFILE OF
THE TOPICS PROGRAM IN MICHIGAN
1969 - 1973

32874

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
AND TRANSPORTATION

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The opinions, findings and conclusions expressed in this publication are those of the author and not necessarily those of the Federal Highway Administration.

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INTRODUCTION

Ongoing highway programs have not been able to keep up with the increasing traffic demand on urban highway systems. Recognizing this, the Congress in the Federal-Aid Highway Act of 1968, established and provided funds for the Program known as TOPICS, Traffic Operations Program to Increase Capacity and Safety.

As of June 30, 1973, Michigan has spent its four years' allocation of Federal TOPICS funds of \$26,274,233 on 206 projects in 20 urban areas with 69 agencies participating in the project costs with local matching funds. This success of TOPICS can be attributed to an array of factors. The Michigan Department of State Highways and Transportation recognized early the need for guidelines and an appropriate local and state organization.

On the local level, each urban area has a coordinating agency, established through a formal agreement, responsible for coordinating the planning with all other local governmental units including the preparation of an area-wide plan for TOPICS improvements. A TOPICS Task Force is established in each urban area, generally under the umbrella of the Transportation and Land-Use Study Group, with representation from each of the participating agencies including the Department of State Highways and Transportation and the Federal Highway Administration. The Task Force, with the traffic engineer of the coordinating agency as chairman, recommends improvements and priorities as part of the area-wide plan development. By June 30, 1973, 20 urban areas and 118 local agencies had been involved in the TOPICS Program.

At the state level, the Traffic and Safety Division established a TOPICS Unit in February 1969 and an administrative team composed of representatives from the Traffic and Safety, Local Government, Transportation Planning, and Construction

Divisions was established within the Department to guide the program through the planning, programming, design and construction phases.

The most significant factor is Michigan's philosophy of program implementation. Early in the Program, Michigan gave emphasis to the identification and justification of high priority projects so that the design and construction could proceed as soon as possible and before the area-wide TOPICS planning was completed. Federal funds are not used for preliminary engineering except where very large projects are involved and not at all for right-of-way acquisition. Ninety-six percent of the federal funds were expended for physical construction; the remainder for design engineering and planning.

AREA-WIDE PLANS

TOPICS assists urban areas in obtaining the maximum efficiency and safety from the existing urban networks through a systematic application of traffic engineering techniques, conforming to an approved area-wide plan. This plan establishes a priority listing of needed improvements based on comprehensive traffic engineering analyses of the street networks within an area. All plans are coordinated with projects for the development of mass transit service and to avoid duplicating efforts.

The 20 urban areas involved in TOPICS are preparing Area-wide Plans; six without federal-aid and 14 with federal-aid of \$424,300 for Area-wide Plans costing \$790,200. Ten urban areas have completed area-wide plans with eight utilizing federal-aid.

TYPES OF IMPROVEMENTS

TOPICS improvements make optimum use of the existing highway system and are normally accomplished without acquiring costly right-of-way. Such improvements included computer controlled traffic signal systems, traffic signal modernization and interconnect, city-wide sign modernization, pavement marking, channelization, one-way streets, highway and railroad grade separations,

continuous center left-turn lane, intersection widening in order to provide additional through-traffic lanes and exclusive-turn lanes. All projects are in conformance with the MUTCD whether or not federal-aid is requested for traffic control devices.

TRIAL TOPICS PROCEDURES I AND II

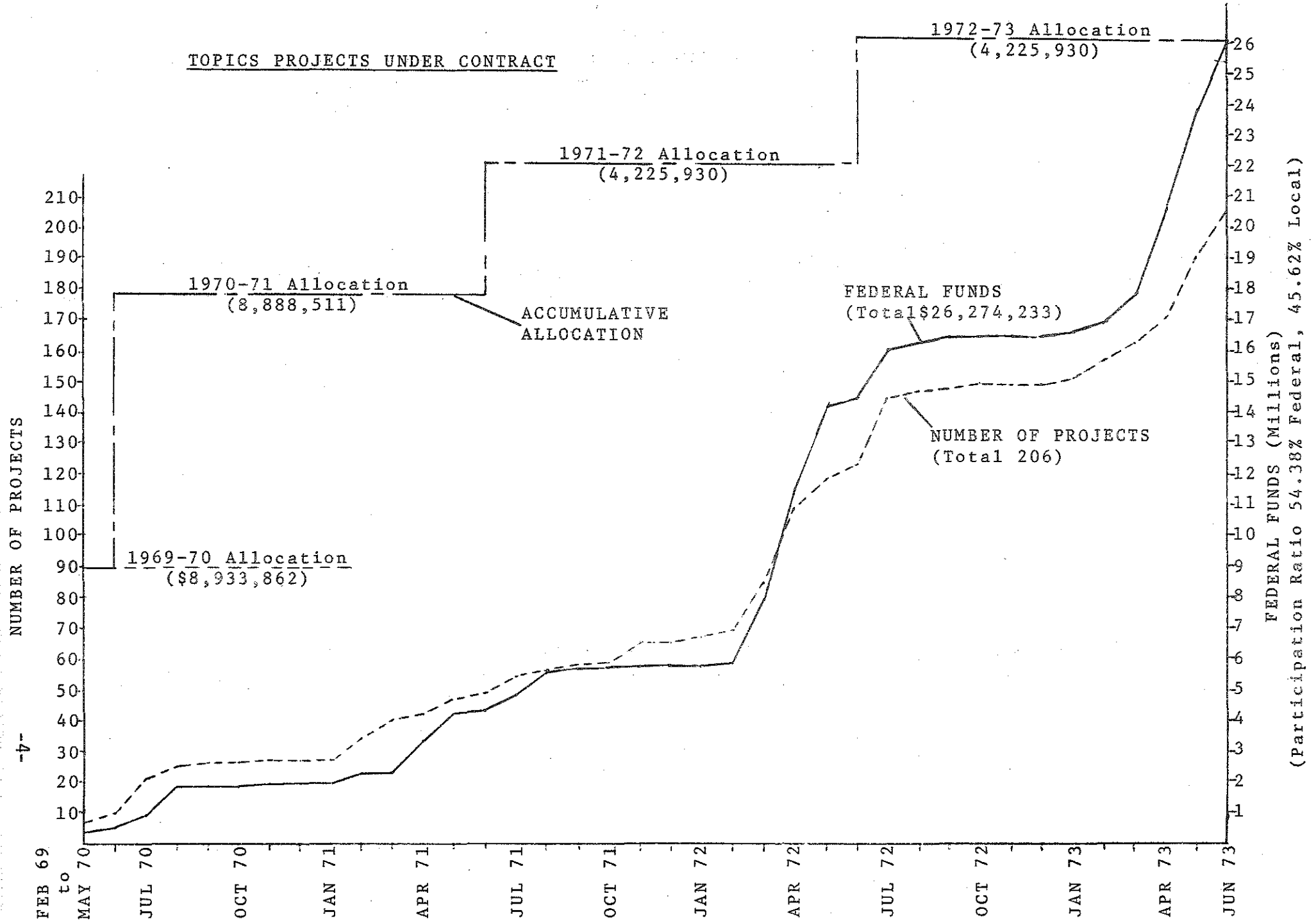
In an effort to more effectively implement solutions to traffic problems, the Department, in cooperation with the Federal Highway Administration and the Cities of Grand Rapids and Detroit, initiated new streamlined administrative procedures intended to implement TOPICS projects with minimum delays. Annual work programs involving 21 projects at a cost of \$3,664,000 were undertaken in the two cities in order to evaluate the trial procedures.

Due to citizen opposition, one project in Detroit involving over \$500,000 was not implemented and in Grand Rapids, due to increasing costs of the Alpine Avenue bridge project, three projects had to be deleted in order to provide sufficient funds. Seventeen projects, costing \$2,744,000 including \$1,492,200 in federal-aid TOPICS funds, were let to contract in 1973 using the new streamlined administrative TOPICS procedures. Preliminary results indicate that these new procedures have been successful.

PROGRESS

Michigan received a four-year allocation of TOPICS funds of \$26,274,233. The 1968 Highway Act provided \$17,822,373 for the first two years (fiscal years 1969-70 and 1970-71) and the 1970 Highway Act provided \$8,451,860 for the second two years (fiscal years 1971-72 and 1972-73) with the provision that the funds would lapse two years after the close of the fiscal year in which they were allocated (see Exhibit page 4).

TOPICS PROJECTS UNDER CONTRACT



FEDERAL FUNDS (Millions)
 (Participation Ratio 54.38% Federal, 45.62% Local)

In February 1969, the TOPICS Unit was established in the Traffic and Safety Division of the Department of State Highways and Transportation. Since that time, 206 projects, including 14 area-wide plans have been implemented at a total cost of \$48,315,900 including federal-aid TOPICS funds of \$26,274,233. During the period of February 1969 to February 1972, 70 projects were implemented at a total cost of over eleven million dollars, including approximately six million dollars in federal-aid TOPICS funds while in the period of February 1972 to June 30, 1973, 136 projects were implemented at a total cost of over 38 million dollars including over 20 million in federal-aid TOPICS funds.

DISTRIBUTION OF TOPICS PROJECTS BY TYPES AND COST

The Program involved 206 projects and \$26,274,233 in federal-aid TOPICS funds.

Figure 1: Distribution of TOPICS Projects by Cost

Fifty-two percent of the 206 projects cost less than \$100,000 while projects having a total cost of over \$1,000,000 accounted for only four percent of the projects (see Exhibit page 6).

Figure 2: Distribution of TOPICS Improvement Costs based on Cost

Projects costing less than \$100,000 used only 11 percent of the funds while projects costing over \$1,000,000 used 30 percent of the funds (see Exhibit page 6).

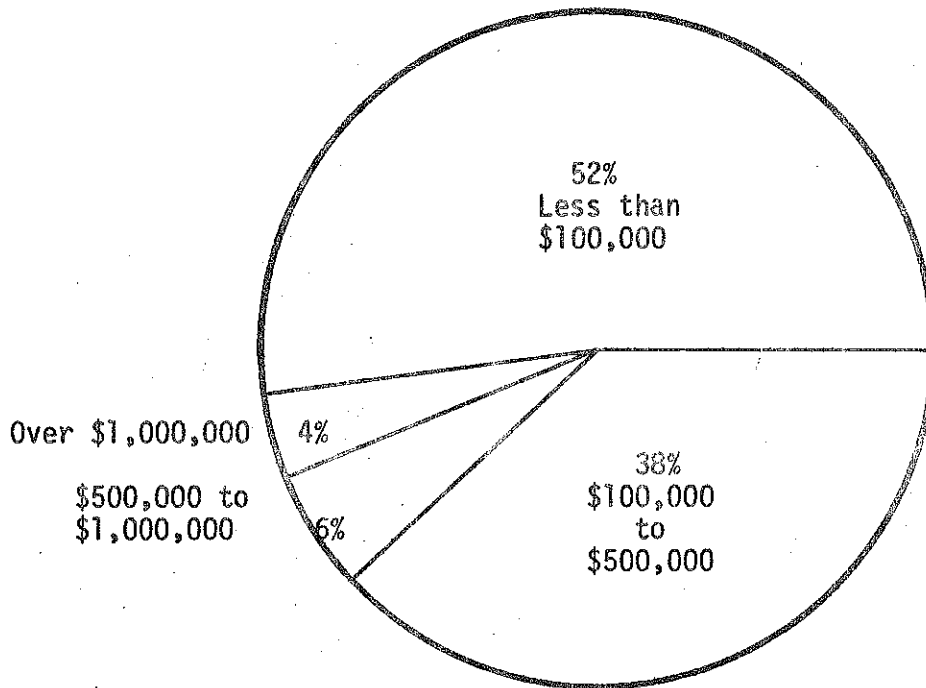
Figure 3: Distribution of TOPICS Improvements by Types of Improvements

Eighty percent of the projects implemented were for signalization (signal modernization, interconnect, computer signal systems) and roadway improvements (intersection widening, exclusive-turn lanes, continuous center left-turn lanes) (see Exhibit page 7).

Figure 4: Distribution of TOPICS Improvement Costs by Types of Improvements

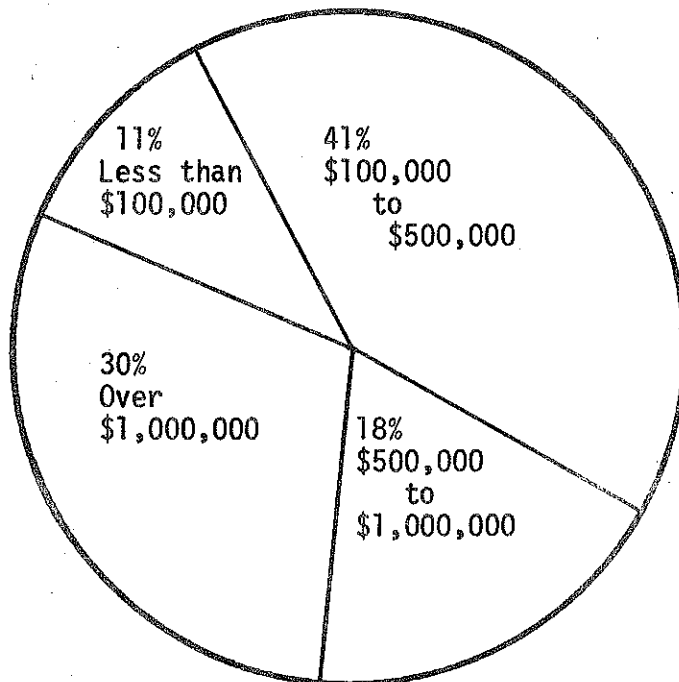
Ninety-six percent of the funds used in the TOPICS Program were spent for construction while only 4 percent of the funds were spent for design engineering and planning (see Exhibit page 7).

FIGURE 1



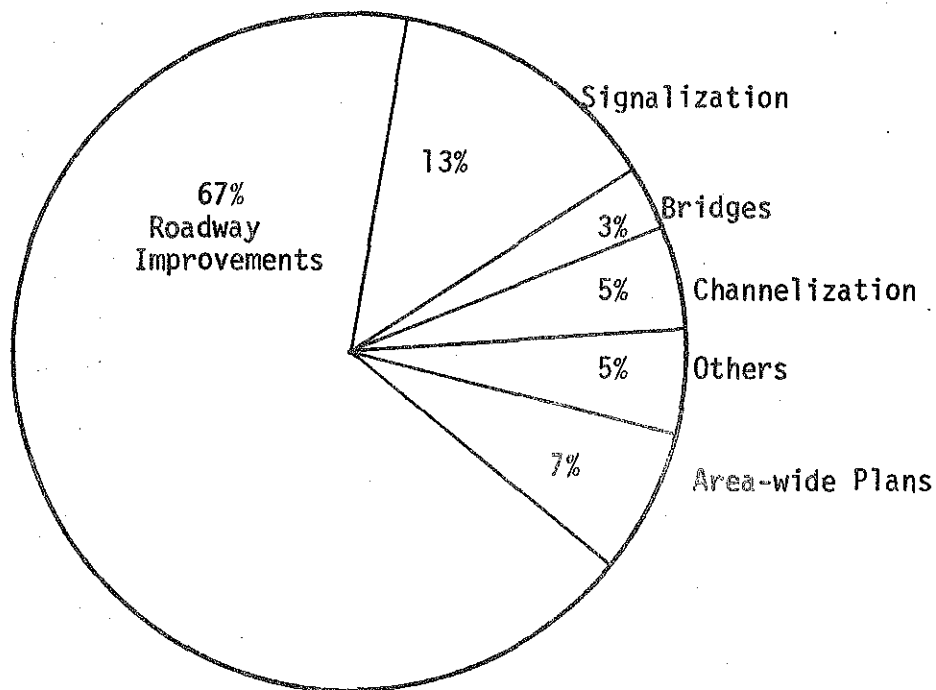
DISTRIBUTION OF TOPICS PROJECTS
(PERCENTAGE OF TOTAL NUMBER OF PROJECTS)

FIGURE 2



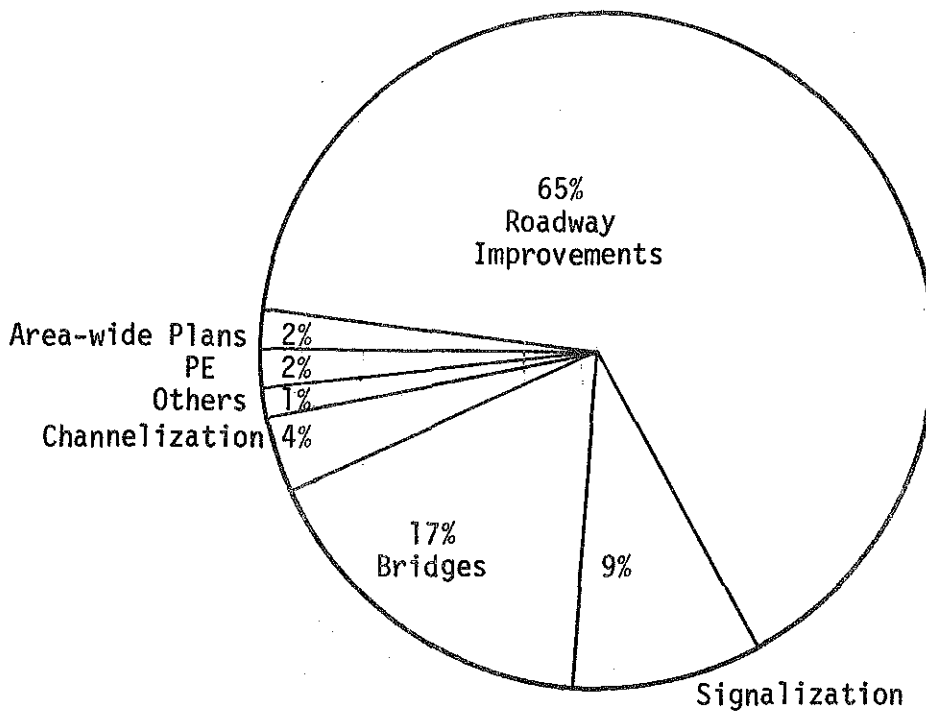
DISTRIBUTION OF TOPICS IMPROVEMENT COSTS
(PERCENTAGE OF TOTAL COSTS)

FIGURE 3



DISTRIBUTION OF TOPICS IMPROVEMENTS BY TYPES OF IMPROVEMENTS

FIGURE 4



DISTRIBUTION OF TOPICS IMPROVEMENT COSTS BY TYPES OF IMPROVEMENTS

DISTRIBUTION OF TOPICS IMPROVEMENT COSTS BY FEDERAL-AID SYSTEMS AND URBAN AREAS

Eighty percent of the TOPICS funds were spent on streets and roads that were not previously eligible for federal-aid while the remaining 20 percent of the funds were spent on the FAS and Trunkline systems. In addition, it should be noted that three bridge projects, each costing a million dollars, were transferred to the Urban Systems program. Had these projects been included, the 52 percent Urban versus 28 percent Type II split would have been considerably different (see Exhibit page 9).

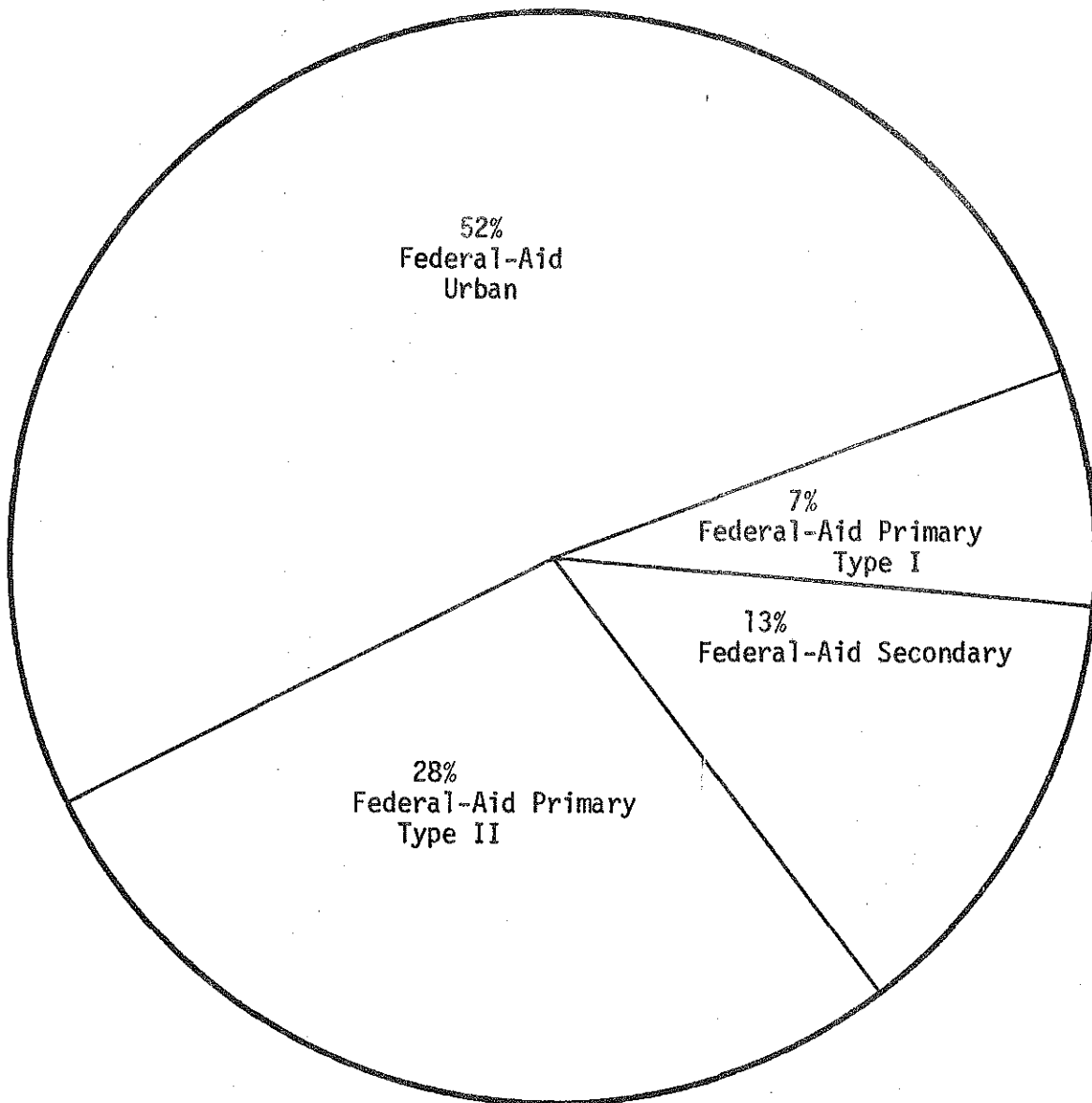
With a population of 63 percent of the Urbanized Areas, the Detroit Metropolitan Urban Area, consisting of Wayne County, Macomb County, Oakland County and the City of Detroit, received 71 percent of the Federal-aid TOPICS funds (see Exhibit page 10). However, on a per capita basis, the City of Saginaw ranked highest and received \$8.43 of federal-aid TOPICS funds per capita (based on 1970 census) (see Exhibit page 11).

ACHIEVEMENTS

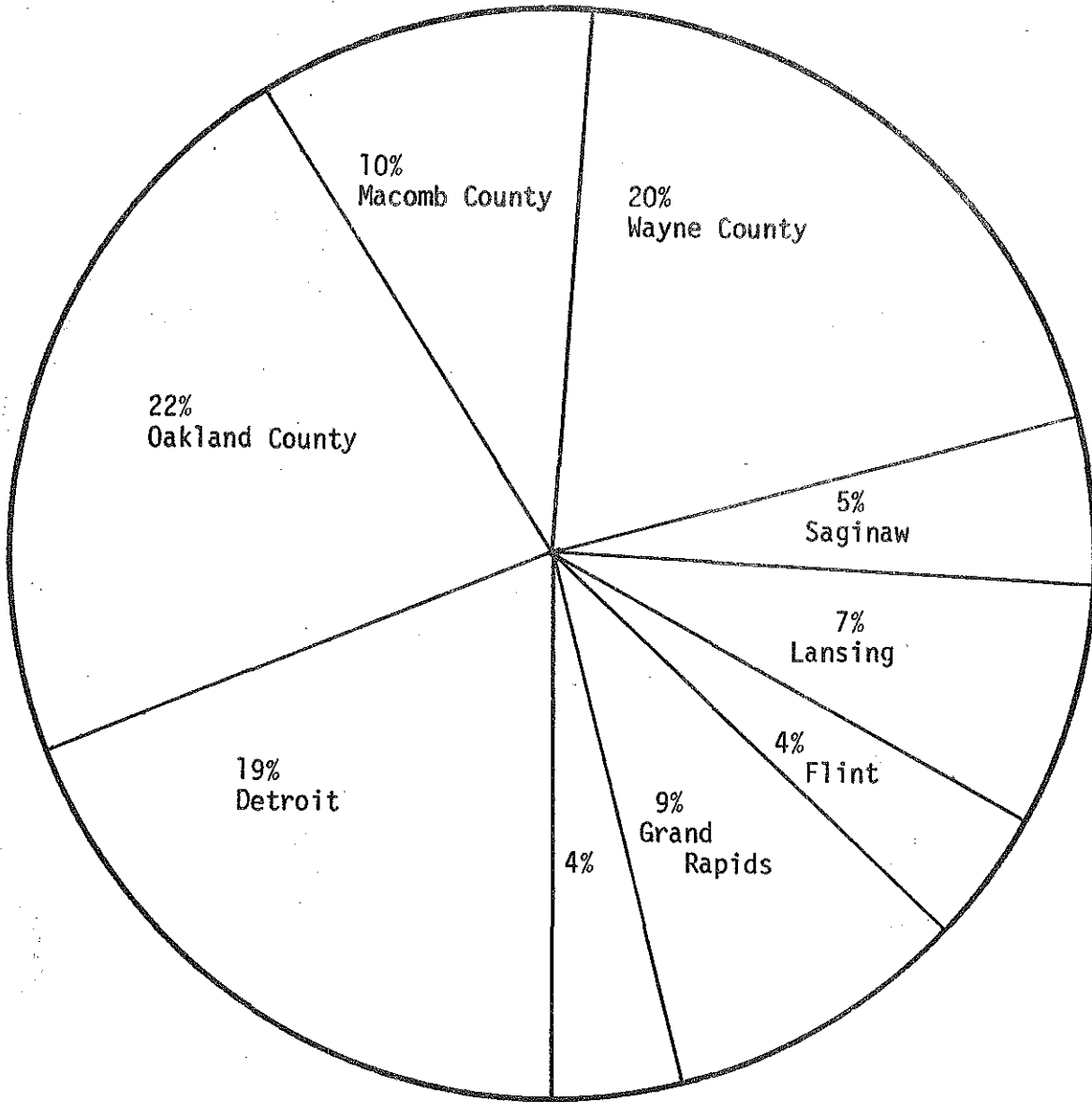
Our main goal in TOPICS is to return the initial cost of a project to the motoring public in terms of benefits in approximately one year. The results of "before" and "after" evaluation studies of 23 TOPICS projects implemented in the first years of the TOPICS Program indicate an annual accident reduction of over 400 accidents. Based on a computed ratio of annual benefits (accident reduction, time savings and reduced operating costs) to initial investment, the initial costs of these 23 projects have been recovered by the motoring public in slightly over one year, thus achieving our goal (see FHWA letters pages 12 and 13).

In the fall of 1971, the Department faced the prospect of having a portion of the 1969-70 allocation of TOPICS funds lapse because the two-year period in which the first year's allocation had to be implemented would expire on June 30, 1972. The Department implemented over fifteen million dollars in federal-aid

DISTRIBUTION OF TOPICS IMPROVEMENT COSTS
BY FEDERAL-AID SYSTEM



URBAN AREAS RECEIVING TOPICS FUNDS



Areas Receiving 1% or Less:

- | | |
|---------------|-----------------|
| Kalamazoo | Ann Arbor |
| Bay City | Jackson |
| Battle Creek | Port Huron |
| Benton Harbor | Holland-Zeeland |
| Midland | Monroe |
| Traverse City | Coldwater |

AMOUNT OF FEDERAL-AID TOPICS FUNDS RECEIVED PER CAPITA
 (Based on the 1970 Census)

<u>Urban Area</u>	<u>Amount</u>
Saginaw	\$8.43
Traverse City	8.13
Lansing	8.00
Midland	7.51
Oakland County	7.07
Grand Rapids	6.49
Wayne County	4.89
Macomb County	4.58
Coldwater	4.54
Flint	3.47
Detroit	3.15
Port Huron	1.90
Ann Arbor	1.83
Benton Harbor- St. Joseph	1.47
Jackson	1.02
Kalamazoo	0.98
Battle Creek	0.47
Monroe	0.41
Holland-Zeeland	0.25
Bay City	0.01



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION FOUR
Five
Lansing, Michigan
48901

October 11, 1972

IN REPLY REFER TO:

TOPICS Evaluation

Mr. John P. Woodford
Deputy Director-Chief Engineer
Michigan Department of State Highways
Lansing, Michigan

Dear Mr. Woodford:

Thank you for furnishing draft copies of your report "Evaluation Study of TOPICS Projects in Michigan" to our office.

The material in the report and the method it is presented furnish a good picture of the accomplishments of these projects. Publication of this type of information is important to inform the public of the benefits they are deriving from the TOPICS Program.

If the studies from all of the States are presented in a format as clear and complete as yours, I am sure the TOPICS Program will gain greatly locally and nationwide, in acceptance and appreciation of the benefits of the projects.

Sincerely yours,

David A. Merchant
Division Engineer



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION 5
Lansing, Michigan
48901

April 11, 1973

IN REPLY REFER TO:

TOPICS Evaluation

Mr. John P. Woodford
State Highway Director
Department of State Highways
Lansing, Michigan

Dear Mr. Woodford:

The report, "Evaluation Study of the 1970-1971 Fiscal Year TOPICS Projects in Michigan", prepared by your department is a fine example of an evaluation report for the TOPICS program. You have furnished sufficient copies of the report to us to provide distribution to the states in our Region.

We would now like to make a national distribution of the report. To allow this distribution of the report, we request permission for our office to reproduce the report. If you have plates of this report that will aid in reproduction, we would appreciate using them.

Distribution of this report will be valuable to illustrate the benefits of an active TOPICS program nationally, and specifically the fine results being obtained in increased capacity and safety by the Michigan Program.

Sincerely yours,

David A. Merchant
Division Engineer

TOPICS funds or 68 percent over the first year's allocation by June 30, 1972 (see FHWA letter page 15). In the fall of 1972, the Department decided to spend all remaining TOPICS funds by June 30, 1973 because the Department had received FHWA authorization to spend all federal-aid funds that had been allocated to the Department. By June 30, 1973, all of the four-year allocation of federal-aid TOPICS funds of \$26,274,233 had been used to implement 206 TOPICS projects in 20 urban areas involving 69 participating agencies (see FHWA letter page 16).

FUTURE

The TOPICS concept has proven itself in Michigan and we expect further emphasis on this kind of program to continue even though the 1973 Federal-Aid Highway Act does not provide funds specifically for TOPICS. The following is quoted from the FHWA Office of Traffic Operations Report on the Status of the TOPICS Program as of June 30, 1973: "It is the expressed wish of Congress that TOPICS continue as a viable program to be funded out of regular federal-aid funds for urban areas. In order to enable this office to meet its obligation to report annually to Congress on the progress of TOPICS, we remind the division offices that it will be necessary to continue to identify TOPICS projects regardless of the source of federal-aid funding." (Also see FHWA letter page 17.)

At the end of June 30, 1973 when all TOPICS funds had been implemented, 41 projects estimated to cost approximately five million dollars remained in the program (see Exhibit page 19). It is anticipated that a majority of these projects will be funded under the expanded Urban Systems program. In addition, based on completed area-wide TOPICS plans, it is estimated that there is a Statewide need for TOPICS type projects costing approximately \$225,000,000 with \$198,000,000 being required in the 12 urbanized areas of 50,000 and above; \$7,000,000 in the six urban areas of 25,000 to 50,000; and \$20,000,000 in 47 urban areas of 5,000 to 25,000 population.



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION 5

Lansing, Michigan
48901

June 30, 1972

IN REPLY REFER TO:

TOPICS Program

Mr. Henrik E. Stafseth
State Highway Director
Department of State Highways
Lansing, Michigan

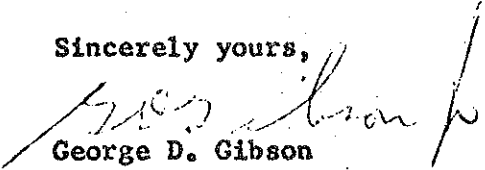
Dear Mr. Stafseth:

You are congratulated on the fine showing Michigan has made on the TOPICS program.

At the close of this fiscal year, the number of projects under contract and the funds obligated has exceeded the goals and desires that were established at this time last year. This accomplishment is directly attributable to the hard work and dedication of the people in your Department in their effort to make a success of the program.

I am sure the results of this effort will be visible and appreciated by the motorists of the State. The safety and congestion at many problem locations will be improved by the projects included in the accomplishments of the TOPICS program this year.

Sincerely yours,


George D. Gibson
Acting Division Engineer



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION 5
Lansing, Michigan
48901

September 11, 1973

IN REPLY REFER TO:

Status of TOPICS

Mr. John P. Woodford
State Highway Director
Department of State Highways
and Transportation
Lansing, Michigan

Dear Mr. Woodford:

Attached for your information are 5 copies of the Report on the Status of the TOPICS Program as of June 30, 1973.

The TOPICS program was successful nationwide last year as indicated by the June 30 status report. Michigan again made a fine showing in the overall success of the program.

The dedication of your Department is appreciated for the extra effort that has continued to make this program successful in Michigan. We hope this effort will continue through the implementation of the local TOPICS Areawide plans this year and in the future.

Sincerely yours,

David A. Merchant
Division Engineer

Attachments (5)



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION 5
Lansing, Michigan
48901

June 25, 1973

IN REPLY REFER TO:

Future of TOPICS

Mr. John P. Woodford
State Highway Director
Department of State Highways
Lansing, Michigan

Dear Mr. Woodford:

The proposed 1973 Federal-aid Highway bills do not provide funds specifically for the continuation of TOPICS. This has led to considerable conjecture whether the TOPICS concept would continue. We believe the concept has proven itself in Michigan and in the remainder of the country, and we expect further emphasis on this kind of program to continue.

This conviction on the need for a TOPICS approach is also shared on a national level. For your information, the following is quoted from a recent memorandum to Regional Federal Highway Administrators from Mr. J. D. Lacy, Chief, Office of Traffic Operations. I believe it establishes a firm basis for the continuation of TOPICS, and confirms a need for continuing emphasis on this important program.

As we await the passage of the 1973 Highway Act, the need for a continuing TOPICS program within urban areas does not diminish. It is important that during the development of any future program of projects and priorities for a given urban area, the application of all feasible traffic engineering measures has been fully explored. This means that each urban area must have a current areawide TOPICS plan and it should be integrated as part of the total transportation plan. This includes not only projects designed to improve vehicular throughput (the number of vehicles that can move over a given section of highway efficiently and safely) but also improvements focused on getting more people to ride in fewer vehicles. In conjunction with the Urban Mass Transportation Administration's short-range Transit Development Programs, we have all the necessary tools to implement needed traffic operation improvements.

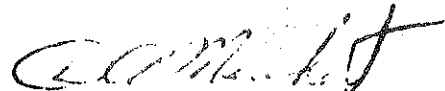
- more -

Since most TOPICS improvements are accomplished without the need to acquire costly right-of-way, the accrued benefits, in terms of increased safety, reduced vehicle operating cost, reduced travel time, reduced air and noise pollution, and increased driver comfort and convenience, usually more than pay for the cost of improvements within a very short period of time. TOPICS type projects have a very high priority for implementation.

Emphasis on the TOPICS concept in each urban area can be assured if the program of projects prepared with the cooperation of the responsible local governments (if applicable) has been selected on the basis of transportation needs, an areawide TOPICS plan including high priority safety projects and the transit development program (if applicable). In this way, TOPICS projects will compete with other highway improvements on a priority basis for funding.

Since it will continue to be in the national interest for each State to have a continuing program designed to facilitate the flow of vehicles and people in urban areas, the TOPICS concept will continue to expand, with or without discrete funding.

Sincerely,



David A. Merchant
Division Engineer

TOPICS PROJECTS NOT FUNDED

<u>Detroit</u>	<u>Total</u>	<u>54.38%</u>	<u>70.00%</u>
T 4000 (30) Outer Dr. @ Van Dyke	\$ 312,800	\$ 170,100	\$ 219,000
T 4000 (31) Outer Dr. @ 7 Mile	317,800	172,800	222,500
<u>Grand Rapids</u>			
T 4001 (18) 28th St. @ E. Beltline	100,000	54,400	70,000
T 4001 (*) M-11 (28th St.) @ Wilson	150,000	81,600	105,000
T 4001 (*) M-11 @ M-45	165,000	89,700	115,500
<u>Flint</u>			
T 4002 (2) M-56 @ Ballenger	211,400	115,000	148,000
T 4002 (3) Ballenger @ Flushing	173,400	94,300	121,400
T 4002 (6) Atherton @ Fenton	159,430	86,700	111,600
T 4002 (7) 2nd @ Court	30,000	16,300	31,000
T 4002 (9) Hemphill @ Saginaw	80,000	43,500	56,000
T 4002 (17) CBD OPTICOM	47,400	25,800	33,200
T 4002 (18) Saginaw St. OPTICOM	20,600	11,200	14,400
T 4002 (*) Mill Street	103,000	56,000	72,100
<u>Saginaw</u>			
T 4004 (11) 5th & 6th One Way	52,600	28,600	36,800
T 4004 (15) Bay St. (Genesee-State)	22,500	12,200	15,800
T 4004 (18) Court @ Harrison, Genesee @ Harold (Pedestrian Overpass)	60,000	32,600	42,000
T 4004 (21) Hamilton Street Connector	87,800	47,700	61,500
T 4004 (*) Genesee @ Michigan	95,000	51,700	66,500
<u>Kalamazoo</u>			
T 4005 (2) Cork-Portage-Lovers Lane	226,900	123,400	158,800
T 4005 (3) 12th Street	280,000	152,300	196,000
<u>Ann Arbor</u>			
T 4006 (2) Main @ Stadium (widening)	50,000	27,200	35,000
<u>Bay City</u>			
T 4008 (4) Trumbull	37,000	20,100	25,900
T 4008 (*) Union @ Euclid	52,600	28,600	36,800
T 4008 (*) Wilder Road	86,600	47,100	60,600
<u>Jackson</u>			
T 4009 (3) West @ Ganson	53,000	28,800	37,100
T 4009 (*) Brown @ Morrell	58,100	31,600	40,700

TOPICS PROJECTS NOT FUNDED (CONT'D.)

	<u>Total</u>	<u>54.38%</u>	<u>70.00%</u>
<u>Battle Creek</u>			
T 4011 (2) Columbia @ Main	\$ 140,700	76,500	98,400
T 4011 (3) Capital @ Union	50,000	27,200	35,000
<u>Port Huron</u>			
T 4012 (2) Pine Grove (Pedestrian Overpass)	80,000	43,500	56,000
T 4012 (4) 10th Street	16,700	9,100	11,700
T 4012 (5) 24th @ Dove	60,000	32,600	42,000
<u>Benton Harbor</u>			
T 4013 (3) Napier @ Colfax	260,000	141,400	182,000
<u>Midland</u>			
T 4015 (4) Washington Street	199,000	108,200	139,300
T 4015 (5) Rodd Street	44,000	23,900	30,800
T 4015 (*) Traffic Signals	141,000	76,700	98,700
<u>Monroe</u>			
T 4016 (2) Signal Job	36,200	19,200	25,300
T 4016 (3) C&O RR @ 7th	67,000	36,400	46,900
<u>Coldwater</u>			
T 4035 (2) Penn Central @ Sprague & Jay	40,000	21,800	28,000
<u>Oakland County</u>			
T 4059 (18) 14 Mile @ Dequindre	288,000	156,600	201,600
T 4059 (39) Pontiac Lake @ Cass Lake	342,800	186,400	240,000
T 4059 (40) 8 Mile @ Halstead	220,000	119,600	154,000
Totals	<u>\$5,018,330</u>	<u>\$2,728,900</u>	<u>\$3,512,900</u>

(*) Not programmed with FHWA