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FY 1991

MULTI-MODAL PROGRAM

MICHIGAN DEPARTMENT OF TRANSPORTATION

FY 1991



FY 1991 MULTI-MODAL PROGRAM

MICHIGAN DEPARTMENT OF TRANSPORTATION

JAMES P. PITZ, DIRECTOR

MICHIGAN TRANSPORTATION COMMISSION

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MARY R. CREASON

JAMES P. PITZ
COL. R. T. DAVIS
WARREN M. HOYT

Prepared by: Bureau of Transportation Planning, Program Planning Division

MAY 1, 1990

PREFACE

The mission of the Michigan Department of Transportation is to provide the highest quality transportation services for all of our customers. This includes supporting Michigan's economy and improving the quality of life for all its citizens.

This 1991 Multi-Modal Transportation Program identifies planned expenditures for projects to be undertaken between October 1, 1990 and September 30, 1991 for Aviation, Comprehensive Transportation, and Highway modes. It combines estimated state and federal revenue to accomplish its purpose.

This document has six sections: Section one is an executive summary of the total program. Sections two, three, and four provide detailed information about the highway, comprehensive public transportation, and aviation modes, respectively. Sections five and six are appendices which list projects to be undertaken during the fiscal year for highways and aviation. Public transportation activities are described in section three.

For further information on this annual process, please contact Ms. Gloria Jeff, Deputy Director, Bureau of Transportation Planning, 517/373-0343, or Ms. Susan Mortel, Administrator, Program Planning Division, 517/335-2962.

ACKNOWLEDGEMENTS

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The highways section was written by the Program Planning Division, Bureau of Transportation Planning. Considerable assistance was provided by the Program Administration Division, Bureau of Highways. The Airport Development Division, Bureau of Aeronautics wrote the aviation section. The comprehensive transportation section was written by the Office of Planning and Programing, Bureau of Urban and Public Transportation (UPTRAN). The Data Management Section, Bureau of Transportation Planning provided information for the highway condition section. Art work, design, and layout were provided by the Project Services Section, Bureau of Transportation Planning. Photos are courtesy of the department's Photo Lab and the Public Information Office.

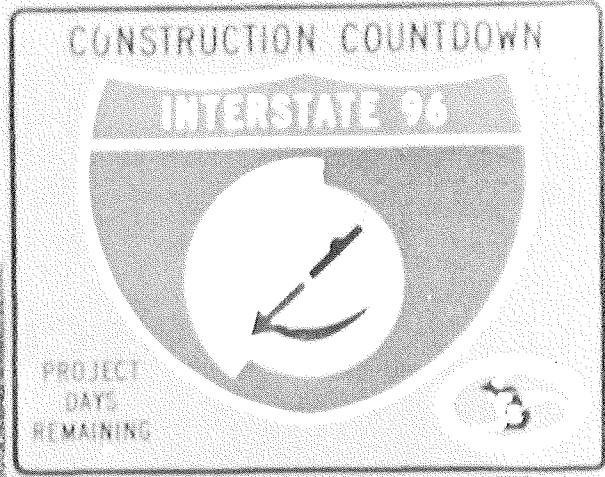
For information on individual projects, please contact:

Aviation	Richard Jackson, Assistant Deputy Director Bureau of Aeronautics 517/373-3042
Comprehensive	Janet D'Ignazio, Assistant Deputy Director Bureau of Urban and Public Transportation 517/373-2834
Highway	Paco Tormen, Engineer Program Administration Division 517/373-2245

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EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

The Michigan Department of Transportation begins the 1990's at a transitional point in the development of Michigan's transportation system.

"The 1990's, a transitional point in transportation"

For the last 30 years, the department has been dedicated to developing an interstate system that ranks with the nation's best. With the current construction of the last 20 miles of I-69 and its opening to traffic in 1991, we will have accomplished this goal.

We must now concentrate on the relationship between transportation and Michigan's economic environment and the quality of life of its citizens. To do this we must work toward integrating the modes so that all facets of the transportation system work together including Highway, Aviation, Rail, Public Transportation and Ports. We must concentrate on projects that will improve the economic climate as well as maintain and improve the existing transportation infrastructure.

On average, over 12,000 cars and trucks travel each mile of state trunkline highways every day. This represents a total of 42 billion miles traveled each year on the 9,500 miles of state highways. Many routes have more than 100,000 cars rolling over them every day. The greater Detroit metropolitan area, in particular, has a large number of freeway and non-freeway routes with high daily traffic volumes; some exceed 200,000 vehicles per day.

The department provides public transportation services that allow commuters, senior citizens, the handicapped, the vacationer, and the business traveler to keep moving. In 1989, over 90 million passengers traveled by bus, 500,000 passengers traveled by train, and 25 million passengers traveled by airplane.

"A total transportation system"

The department also assists in providing a total transportation system for transporting goods that Michigan makes or imports. We estimate that trucks carry 52 million tons of goods on our highways each year. Almost 98 million tons roll over Michigan's system of railroads. Over 75 million tons sail into or from Michigan ports, and over 400 million pounds of cargo fly through Michigan skies.

These figures show just how important a good transportation system is to the economic growth and quality of life in our state. We must keep the system in good repair and expand the system as the demand for service exceeds current capacity. In this way we can help insure a favorable environment for economic growth as well as making travel more enjoyable for Michigan's citizens.

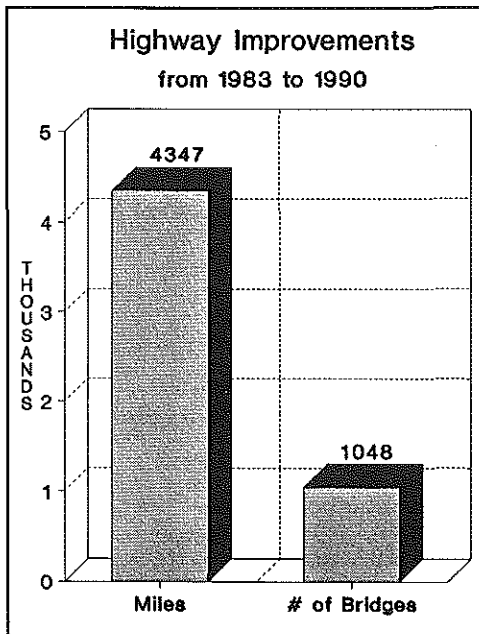
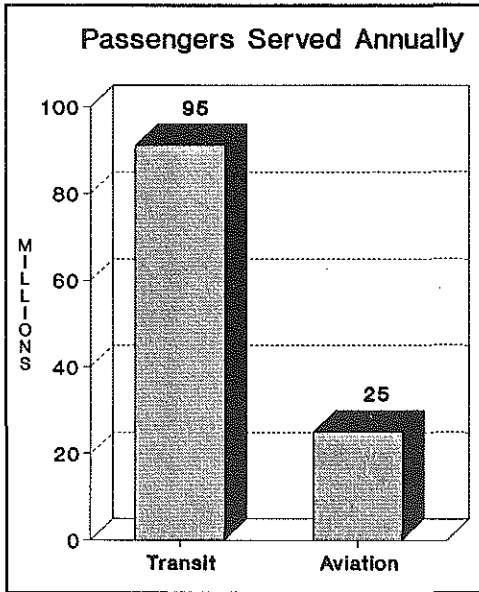
PROGRAM PROGRESS

HIGHWAYS

Since 1983 we've repaired or upgraded 4,347 miles of roadways and repaired 1,048 bridges. This is an annual average of 543 miles of roadways and 131 bridges.

In 1987 we opened the segment of I-69 around East Lansing. This allows trucks to by-pass the city streets of Lansing and East Lansing, and makes driving faster and safer for everyone. In 1988 we opened the Zilwaukee Bridge. No longer will there be miles of cars and trucks backed up while boats keep the draw bridge up on I-75.

In 1989 we completed the I-696 freeway through the suburbs north of Detroit. This route will greatly improve east/west travel through southern Oakland and Macomb counties. Long distance traffic, including heavy trucks, will no longer have to use local service streets. Travel will be easier, faster, and safer for individuals and businesses.



In 1989 we also contracted for the construction of the last segments of I-69 in Shiawassee and Eaton counties. When I-69 from Lansing to Charlotte is open to traffic in 1991, we will have completed the interstate system in Michigan.

Other improvements are planned in FY 1990 for other parts of the state. In the Upper Peninsula, we plan to improve US-41 in the Ingalls area and M-129 from Cedarville to Pickford. In the northern half of the Lower Peninsula, improvements are planned for US-27 in Clare, M-75 in Boyne City, I-75 in Crawford County, and the M-115 bridge over the Muskegon River. We will also continue construction along the US-31 and US-10 routes in the Ludington area.

MASS TRANSIT

Michigan is recognized nationally as a leader in providing transit services to small communities and rural areas. Our public transportation program has continued this focus. Since 1983, local bus service has been introduced in 25 Michigan communities, 27 transit facilities have been constructed for transit agencies, with three more programmed in FY 1990, and 2,100 buses have been purchased to provide service in local communities.

"Recognized nationally as a leader in providing transit services to small communities and rural areas"

Since 1983 our intercity passenger programs, designed to preserve intercity service to Michigan communities, have funded purchase of 46 intercity buses, construction or renovation of seven passenger terminals with three more under construction, and inauguration of Rural Connector service that offers local bus connections for intercity travelers in six Michigan counties.

Service on Michigan's rail passenger corridors has benefited from a new generation of passenger cars, introduction of push-pull equipment, crossing protection, and track upgrades. Travel time on the Detroit-Chicago corridor has been cut by 30 minutes.

Our freight program has contributed technical and financial assistance on several economic development projects: Mazda, Hamtramck rail yard, Louisiana Pacific Sagola service track, Jefferson-Connor industrial revitalization, and Sycamore Creek industrial park. We have invested \$45 million in rehabilitating state-owned rail facilities, ensuring that Michigan's communities continue to benefit from efficient and effective local and regional rail freight services.

AVIATION

Our airports provide for the rapid movement of materials critical to economic vitality as well as timely movement for our citizens. Efforts to preserve and expand this vital transportation link are important to maintain the level of mobility we now enjoy. Since 1987, a number of projects have been completed that have preserved or expanded existing airports. The following are examples of these efforts.

In 1987 we completed a runway extension at Howell and in 1989 we completed two more extensions at Port Huron and Saginaw. Also in 1989 we constructed a major new runway at Big Rapids. These projects serve and attract corporate aviation. The conversion of the Holland Tulip City airport from privately-owned to the public domain was another significant accomplishment in preserving corporate aviation.

In 1989 we completed new or extended runway construction at St. Ignace, Indian River, and Drummond Island. These projects provided improved all-weather facilities that help serve the demands of Michigan's four season tourism industry.

In 1990 we plan to construct a runway extension at Charlotte and Lakeview as well as rehabilitate airports at Bay City and Jackson.

These are some of the transportation needs we have been able to meet. Unfortunately, there are many needs for transportation services that we can't meet.

"Our airports provide for rapid movement of materials critical to economic vitality"

UNFUNDED PROJECT NEEDS

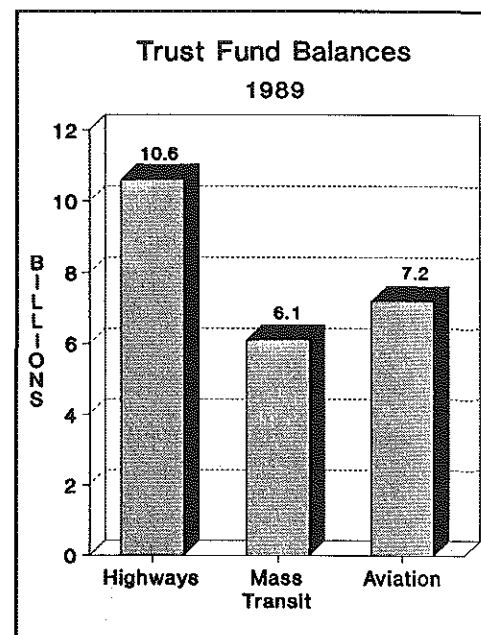
All modes have been, and are continually, requested to provide services and projects that are beyond current revenue, and therefore are unfunded. Throughout the state, projects have been requested to widen state trunklines, improve bus and rail service, or improve airports. Unfortunately, too many of these valid requests remain unfunded for implementation. The projects would serve economic development or reduce congestion that affects transportation's ability to serve residents, businesses and the tourist industry. Many of the projects were identified during the fourteen Transportation 2020 forums held around the state in 1988, and many more have been requested since that time.

FEDERAL ISSUES

There are federal funds available to meet many of these needs. The Highway Trust Fund has a \$10.6 billion balance while the Mass Transit Trust Fund has \$6.1 billion and Aviation Trust Fund has \$7.2 billion that citizens nationwide have paid into them. These funds are being withheld by Congress in order to make the federal budget deficit appear smaller. Since Michigan does not receive a 100 percent return on the tax dollars it sends to Washington, withholding transportation trust funds is particularly troublesome.

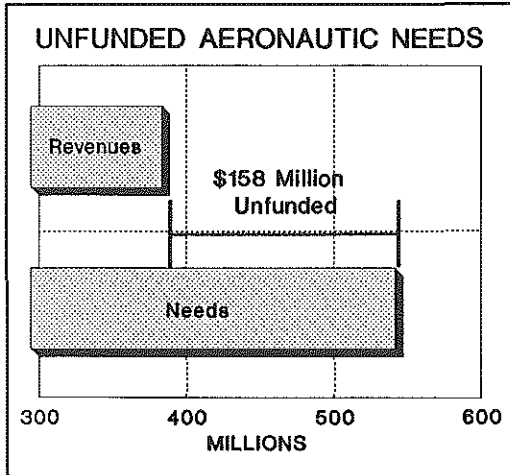
If Congress would draw down these funds and use them as intended, we could fund many of our unfunded improvement needs. A phased draw down of the Transportation Trust Fund would add around \$100 million to the annual program.

The department is actively participating in discussions regarding the new federal Surface Transportation Act which will replace the current highway and public transportation funding legislation expiring at the end of 1991. Michigan is making suggestions gathered from our citizens, and we are analyzing various proposals being made by others at the national level for their impact on Michigan's transportation system. The level of federal funding and the rules for its use will affect Michigan's aeronautics, highway, and public transit programs after 1991.

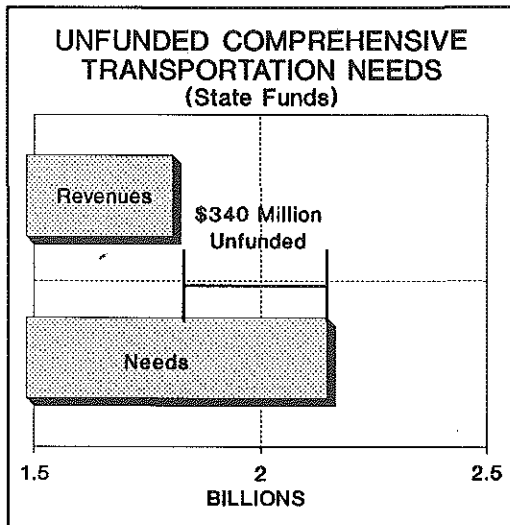


1989-1998 INVESTMENT PLANS

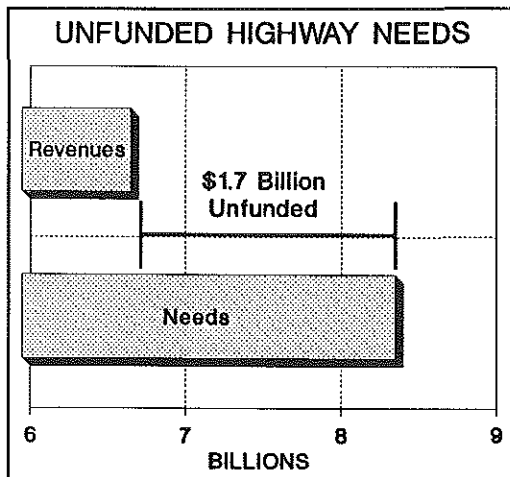
Each mode's investment plan is the method this department uses to allocate expected revenue to broad program categories of Preserve, Improve, and Expand when needs are beyond revenues. The three modes have received requests to provide services and projects that would benefit transportation in Michigan, but that are beyond the mode's annual and ten-year expected revenue. Without additional revenue from federal, state, or private sources, there will be a total of more than two billion in unmet needs. The investment plans sets the long-range priorities for each mode. This annual program implements the investment plans by assigning funds to specific projects or programs.



The \$158 million identified as unmet needs in the Aeronautics Investment Plan means that not all needed work will be done at existing airports to serve the business and pleasure traveler, to attract new more efficient aircraft, and to support local industry.



The \$340 million of state unmet needs in the Comprehensive Transportation Investment Plan means that we will be unable to fund replacement of all transit vehicles meeting replacement criteria, any needed transit facility, new local bus service, expanded bus service in rural counties to connect with intercity bus services, marine ferry service, or additional improvements to track conditions along rail routes.



The \$1.7 billion of unmet needs in the Highway Investment Plan means we will be unable to provide additional capacity on widened and new routes, new methods for traffic operation, and additional services to motorists at expanded roadside facilities.

THE 1991 MULTI MODAL PROGRAM

The 1991 Multi Modal program is an annual element of each Investment Plan. Once again, the department will emphasize preservation of existing programs and services and preservation of our trunkline system.

The 1991 program calls for the repair and maintenance of 356 miles of roads and streets, and the repair of 76 bridges. Capacity improvements, which increase the number of vehicles a road can carry, are scheduled for 14 miles of highways. Twelve miles of expansions to the existing highway system are also included in the 1991 program.

"The 1991 program is an annual element of each Investment Plan"

The program also provides for the continuation of public transportation service to 95 million bus riders annually on 66 transit systems statewide, to 500,000 train riders, and to 25 million airplane passengers.

MAJOR PROJECTS

The major projects to be undertaken include:

Upper Peninsula

- Resurfacing 8 miles of US-41 from Pearl Street in Houghton to 6th Street in Chassel in Houghton County.
- Reconstructing 2 miles of US-41 from M-203 to Coburn Town Road in Houghton County.
- Widening 3 miles of M-28 from M-117 to M-123 in Luce County.
- Widening 3 miles of US-2 from Price Road to Toms Creek in Mackinaw County.
- Resurfacing 9 miles of M-35 from Gladstone to Perkins in Delta County.
- Continued support for ferry service between Neebish, Sugar, and Drummond islands and Chippewa County mainland.
- Continued support for local bus systems.
- Perimeter fencing and apron expansion at Delta County Airport in Escanaba.
- Apron expansion and taxiway extension at the Chippewa County International Airport in Sault Ste. Marie.
- A new taxiway at Ford Airport in Iron Mountain/Kingsford.
- Terminal building at the Marquette Airport.
- Snow removal equipment at the Houghton County Memorial Airport in Hancock.

Northern Lower Peninsula

- Resurfacing 3 miles of US-27BR from Townline Road to US-27 in Clare County.
- Resurfacing 4 miles of M-115 from Old M-61 to 50th Avenue in Osceola County.
- Rehabilitating 8 miles of US-131 from Boone Road to M-42 in Wexford County.
- Rehabilitating 5 miles of M-55 from M-18 to Federal Avenue in Roscommon County.
- Relocating 2 miles of US-31 from Scottville to Hanson Road in Mason County.
- Rehabilitating 2.5 miles of M-32 from Murner Road to Hayes Road in Otsego County.
- Continued support for local bus systems.
- Runway improvements and lighting at Phelps Collins Airport in Alpena.
- Runway rehabilitation at Wexford County Airport in Cadillac.

"Preservation is our first priority"

Southern Lower Peninsula

- Apron, taxiway, and runway improvements at Evert Municipal Airport in Evert.
- Rest Area and Travel Information Center improvements on I-75 at the Ambassador Bridge in Wayne County.
- Resurfacing 7 miles of US-23 from M-59 northerly in Livingston County.
- Resurfacing 10 miles of M-43 from M-66 to Broadway Road in Barry County.
- Resurfacing 5 miles of US-12 from Union to Suszek Road in Cass County.
- Resurfacing 8 miles of M-40 from Paw Paw to Gobles in Van Buren County.
- Resurfacing 10 miles of US-127 from M-50 to US-12 in Jackson County.
- Continued support for local bus systems.
- Continued support of Amtrak passenger service.
- Continuation of Rural Connector service.
- Completion of an Intercity passenger terminal at Lansing.

- Resurfacing 8.5 miles of US-12 from Concord Road to Moscow Road in Hillsdale County.
- Rehabilitating 3 miles of Old I-196 from M-140 to North Shore Drive in Van Buren County.
- Resurfacing 7 miles of M-24 from Lake Orion to the County line in Oakland County.
- Apron rehabilitation at Tri-City International Airport in Saginaw.
- Runway construction and access road at Metropolitan Airport in Wayne County.

PROJECT COSTS

Providing these transportation services: road repairs, maintenance, and improvements; airports maintenance and improvements; and other public transportation services will cost \$514 million.

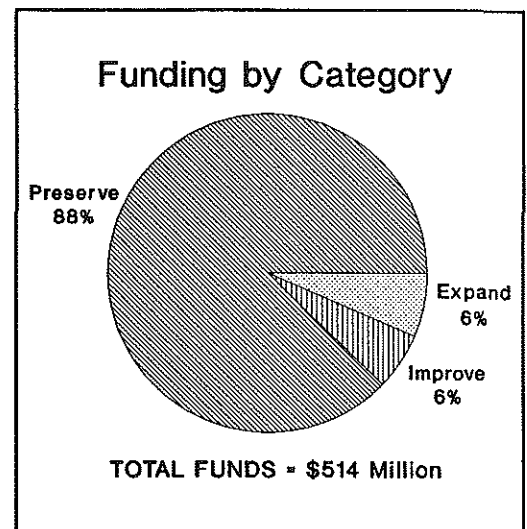
A total of \$305 million is devoted to highways. Of that total, \$274 million is devoted to our highest priority; preserving the existing state trunkline system. The remaining \$31 million will be spent on road improvements and expansions. Some of the system preservation work is being done in conjunction with road widenings or other transportation improvements.

In addition to the state/federal transportation program, local units of government plan on a \$105 million program, including \$82 million in federal aid. Local projects are not listed in this program.

A total of \$168 million is to be used to help provide local bus, intercity passenger, and freight services: \$159 million to preserve existing public transportation services and \$9 million to improve services.

A total of \$41 million will be used to provide much needed improvements to the system of airports and air services. This breaks down to \$19 million for preservation activities, \$20 million for improvements, and \$2 million for expansion projects.

	Highway	GTF	Aviation
Preserve	\$274	\$159	\$19
Improve	4	9	20
Expand	27	0	2
Totals	\$305	\$168	\$41



THIS DOCUMENT

The remainder of this document details the specific programs for the highway, comprehensive transportation, and aviation modes. A listing of the projects to be undertaken during 1991 for highways and aviation is included in the appendix at the end of this document.

In developing the program, we made several assumptions concerning revenues as well as provisions for emergencies and other special situations that may occur throughout the year. One assumption is that our federal funding will be restricted similar to last year, and that the trust fund balances will remain high. This assumption is based on Congressional Budget Office estimates of the federal budget deficit and project federal funding levels.

As it stands now, our 1991 federal aid will be \$20 million lower than originally anticipated. If Gramm-Rudman-Hollings reductions are ordered, our federal aid will be cut even deeper. In 1988 we suffered a \$45 million cut from the original budget. Over the last five years, the total federal aid has been \$115 million less than the original Congressional budget.

The Michigan Department of Transportation (MDOT) has always placed an emphasis on competing for federal discretionary funds. This has been an effective method of increasing or maintaining our program to compensate for other federal cuts. In 1991, we will continue to aggressively pursue all available federal transportation funds.

Other uncertainties are involved in developing the multi-modal program. Individual projects are placed in the program on the basis of estimated revenue and cost, and on the ability to complete preconstruction and other preliminary activities. We believe these estimates are accurate; yet, as with any estimate, changes can occur. As a result additions, deletions, and other modifications may occur in all modes as we implement the program.

HIGHWAYS



HIGHWAYS

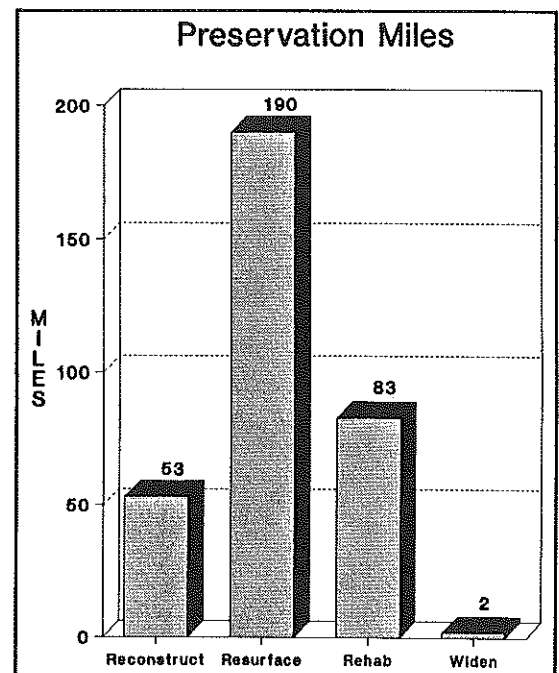
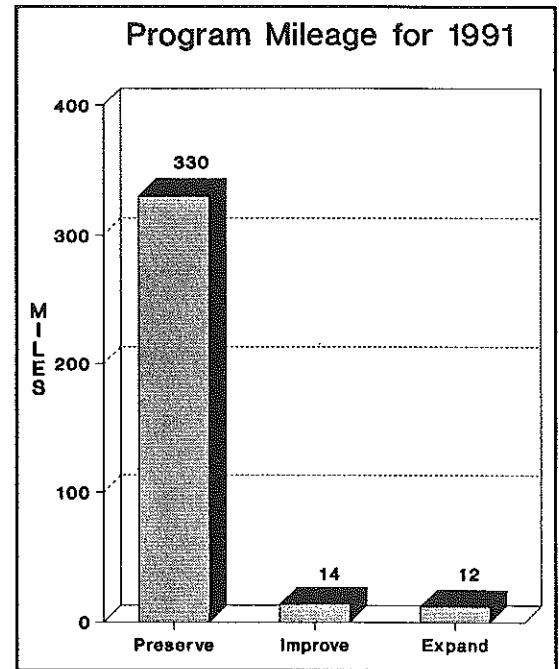
With the completion of the Interstate system very near, the overwhelming priority for the highway system is to repair and maintain the 9,500 miles over which the department has jurisdiction. Thus, the program is heavily weighted toward preserving existing highways.

The 1990's is seeing MDOT refocusing from new construction to preservation of the existing system. MDOT is proud that the final Interstate completion projects are under construction and will be opened to traffic in 1991. The 1991 and future programs will direct additional effort at preservation and improvement of Michigan's 1200 miles of Interstate routes, and 800 miles of other US and M routes. Motorists have been enjoying the pleasure of recently reconstructed portions of I-75, I-94, and I-96 through primarily rural areas where the freeways were first built. Additional segments will be reconstructed in future years.

The department is now focusing its attention on planning the orderly revitalization of all Michigan's freeways, including the urban segments which may require additional lanes and modified interchanges. Many of these routes have provided 30 or more years of service, serving many more motorists and vehicles than were envisioned when they were constructed. This revitalization will encompass all components of a freeway: surface, bridges, interchanges, traffic operations, and roadside elements.

SYSTEM PRESERVATION

The 1991 program devotes 92 percent of the miles and 88 percent of the dollars to preserving the existing system. The program reconstructs 53 miles, resurfaces 190 miles, rehabilitates 83 miles, and widens 2 miles. Intersection revisions add 2 miles for a preservation total of 330 miles.



*"Preservation is improving condition
without adding capacity"*

These preservation projects cost a total of \$199 million. The remaining \$75 million of preservation expenditures is for projects that repair shoulders and joints, promote safety, and repair bridges. Seventy-six bridges will be painted, resurfaced, repaired, or replaced in 1991. The major preserve projects include:

1. Reconstruction Projects

- a. 5.5 miles of Old M-69 from US-2 easterly in Delta County, required so the road can handle logging trucks.
- b. 15 miles of US-31 from Hanson Road northerly in Mason County, part of an ongoing federal demonstration project funded over several years.
- c. 13 miles of M-32 from Hall Road easterly in Montmorency County.
- d. Interchange reconstruction on I-96 at Milford Road in Oakland County.

These roads need extensive reconstruction. Typical problems calling for reconstruction include pavements that have cracked and shifted and are badly deteriorated, a base that is inadequate to support the traffic on the road, and inadequate drainage. The deficiencies associated with these projects require a more extensive treatment than resurfacing or rehabilitating the existing pavement. Interchange reconstructions are required when their designs are not capable of handling the increasing traffic volumes using the interchanges.

2. Resurfacing Projects

- a. 9 miles of US-41 from Menominee to County Road 338 in Menominee County.
- b. 12 miles of I-75 from I-75BL southerly in Oakland County.
- c. 8 miles of US-23 from south of I-96 to M-59 in Livingston County.

- d. 11 miles of M-25 from Lexington to Port Sanilac in Sanilac County.
- e. 8 miles of US-131 from M-222 to 135th Street in Allegan County.
- f. 5.5 miles of M-37 from Alpine Church Avenue northerly in Kent County.
- g. 3 miles of M-3 from M-102 to I-696 in Macomb County.

These projects repair the pavement and provide a smooth ride for the motoring public. Additional or recycled surface material is placed on the existing pavement to improve the ride or strengthen the pavement. There may be some other work done in conjunction with the resurfacing, such as shoulder improvements, pavement patching, minor drainage corrections, crack sealing, or elevation adjustments. Sometimes a roadway will be resurfaced while it is still in fairly good shape to economically extend its life. This treatment may extend the life of the roadway for another ten years before major improvements are required.

"Resurfacing extends the life of a roadway and provides a smooth ride for motorists"

3. Restoration & Rehabilitation Projects

- a. 7 miles of I-96 from the Ionia County line to Wacousta Road in Clinton County.
- b. 6.2 miles of US-23 from north of Thompson Road to I-75 in Genesee County.
- c. 9 miles of M-81 from Indiantown Road to the east county line in Saginaw County.
- d. 6 miles of I-94 from Michigan Avenue westerly in Jackson County.

These projects rehabilitate pavement that is not in good enough condition for simple resurfacing, or where only spot improvements are needed.

SYSTEM IMPROVEMENTS

In addition to our preservation needs, there continues to be a need to improve services to businesses and to the motoring public. Some roadways are not wide enough to handle traffic that has been steadily increasing over the years. Other areas have developed to the point where new highways are needed. In these instances, the department must improve and expand services. The projects selected in the improve and expand categories are taken from a "core" list of projects, which is part of the department's 1989-98 Long-Range Program. Improve projects usually include resurfacing of the existing road as part of the overall project.

IMPROVE PROJECTS

"Improve projects increase road efficiency and reduce motorist delays"

The FY 1991 program provides \$4 million to add lanes and resurface existing lanes along 14 miles of existing trunkline. The major improve projects are:

- a. 3 miles of US-12BR from Miles Street to the east county line in Washtenaw County.
- b. 2 miles of M-44 from north of 3 Mile Road to south of 4 Mile Road in Kent County.

These improvements will increase the efficiency of the roads and reduce delays experienced by motorists.

EXPAND PROJECTS

The 1991 program provides \$27 million to build 12 miles of new highways. The major expand projects are:

- a. 5.5 miles of US-31 from Walton Road to Lake Chapin Road, continuing work started in Berrien County in previous years.

- b. US-31 Relocation in Mason County, providing a bypass of Scottville. This continues the federal demonstration project on US-31.

"Expand projects complement the existing system making travel easier and more efficient"

These projects complement the existing system by expanding state highways so that travel is efficient for all of Michigan's citizens and businesses. Other expand projects are included under the economic development fund.

RIGHT OF WAY ACQUISITION

During 1991, the department will continue right-of-way acquisition along the M-59 corridor in Macomb County in preparation for the construction of a modern boulevard beginning in 1992. Land acquisition will also continue along the US-31 corridor in Berrien County between Berrien Springs and I-94. These projects are being partially funded with special federal loan funds which assist states in acquiring land for major construction projects.

BRIDGE PROGRAM

The bridge program identifies bridges scheduled for capital improvement, whether for preservation or improve/expand. This program assures that the 4,500 bridges will be able to support loads and link the adjacent road pavements together as the state trunkline system. Bridge work is generally done in conjunction with adjacent road work as much as possible to minimize disruption to the traveling public.

In 1991, one of Michigan's major bascule bridges will be replaced. It is I-94BL over the Black River in downtown Port Huron, and has served its earlier purpose beyond its expected time. It's \$9 million cost for one bridge is a significant portion of the \$42 million available for all bridge work this year. Michigan's trunklines have approximately 30 large bridges, including 10 others like the I-94BL bascule bridge, that will also need expensive attention in the future.

Major bridge work scheduled for 1991 includes:

- a. I-94BL over the Black River in Port Huron
- b. A new bridge on I-94 over Ellsworth Road.

TRAFFIC OPERATIONS

This program identifies and funds locations to receive sign replacements, pavement markings, signal installations, intersection improvements, and guardrail upgrades. Major projects this year include:

- a. 57 miles of sign upgrading on US-23 in Iosco County.
- b. 12 miles of sign rehabilitation on I-496 in Ingham County.
- c. 32 miles of sign upgrading on US-131 in Kent County.
- d. 26 miles of sign upgrading on US-27 in Isabella County.

ROADSIDE PROGRAM

Roadside projects improve the quality of life for residents living adjacent to freeways as well as making travel more enjoyable for the motorist. It is another facet of MDOT providing customer services and includes such items as rest areas and welcome centers, landscape plantings, non-motorized facilities, weigh stations, and noise abatement.

One of Michigan's major international gateways will receive a Welcome Center in 1991. It will be located on I-75 at the Detroit side of the Ambassador Bridge.

Locations of roadside projects this year include:

- a. I-75 noise abatement in Oakland County.
- b. I-696 noise abatement in Oakland County.
- c. I-75 Welcome Center at Ambassador Bridge in Wayne County.
- d. I-275 bike path repair in Monroe County.
- e. Converting three weigh stations to electronic scales.

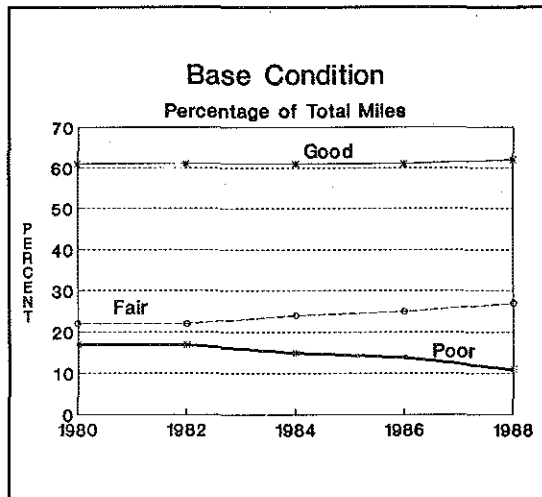
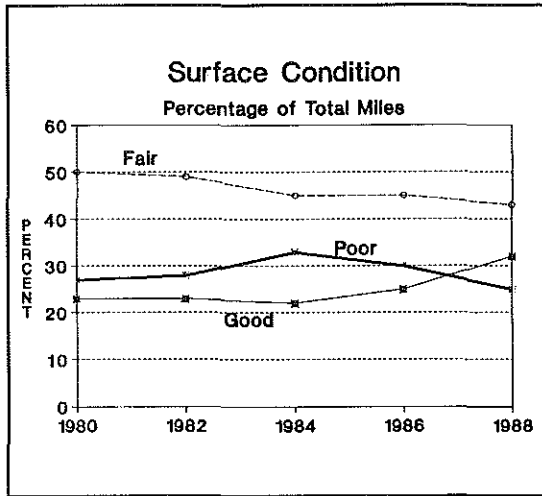
TRANSPORTATION ECONOMIC DEVELOPMENT FUND (TEDF)

TEDF, created in 1987, provides funding for transportation improvements associated with economic development projects. Vehicle registration and driver license fees provide the funding for these projects. The state must compete with the counties and cities for funding. The 1991 highway program includes \$15 million for transportation improvement projects that help enhance or retain economic development. The TEDF projects this year include:

"TEDF projects enhance or retain economic development"

- a. The Haggerty Connector for 0.6 mile from 12 Mile Road north in Novi.
- b. M-99/Logan (Capitol Loop) for 0.6 mile from Lenawee Street to Ionia Street in Lansing.
- c. M-53 for 1.2 miles from Newark Road to Third Street in Imlay City.
- d. M-45 for 0.4 mile from Grand River Avenue to Division Avenue in Grand Rapids.

HIGHWAY CONDITION INFORMATION



The charts in the margin indicate the trend of the general condition of our roadways. This shows that at the same time we have continued to experience declining revenues, we have been able to maintain the overall generally good condition of our roads and highways. Our ability to maintain this condition level is threatened by continued declines in federal funding. This year the number of miles of preservation work is down, compared to past years.

Annually, we review all state-owned roadways to determine their condition. Each roadway is assigned a score on the basis of its surface and base characteristics. Surface ratings measure the adequacy of the roadway surface itself; base ratings measure the soundness of the roadway foundation.

Each roadway is then classified as in good, fair, or poor condition for both surface and base. The percentage of roadway miles in each of these classifications is shown in the margins.

Priority Commercial Network

The Priority Commercial Network is 4,300 miles of state highways that are most important for commerce in the state. Routes on the Priority Commercial Network are ones that are used extensively to haul goods to and from businesses in Michigan, and for tourism. A Priority Commercial Network route is given high priority when projects are considered for inclusion in the program. It is our intent to keep this subsystem of state highways in the best possible condition.

Fifty-nine percent of the dollars and fifty-eight percent of the miles in the program are targeted towards the Priority Commercial Network.

Bridge Condition

In addition to highways, bridges are rated and classified as either good or in need of repair. Of the 4,493 bridges on our system, 1,870 need repairing of which 1,199 need painting.

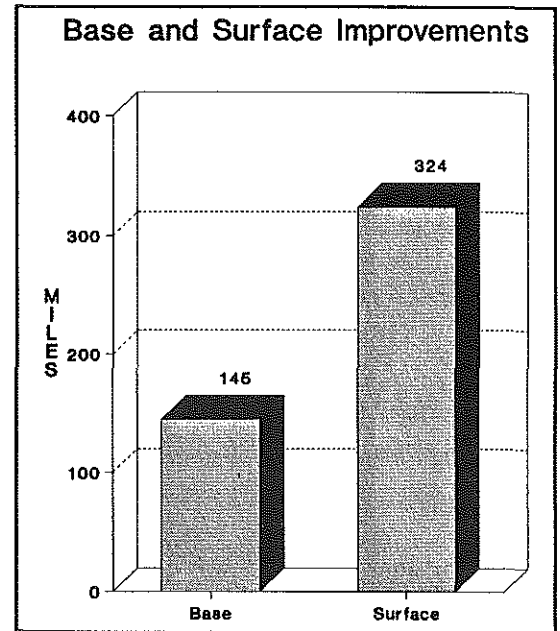
IMPROVEMENTS TO CONDITION

Our major purpose in collecting this condition data is to guide us in selecting pavement preservation projects. Projects are selected with the objective of improving the overall condition of the highway system.

Each year we must repair at least 390 miles of roads just to keep pace with deterioration. Any mileage above the 390 mile mark reduces the backlog of resurfacing needs. This year we have 356 miles of improvements in the program.

The chart in the margin presents a summary of the improvements we will be making to the roads in 1991.

Prior to 1991 we had a target of repairing an average of 500 roadway miles annually. This target allowed all roads to be repaired as soon as their condition was rated "poor." In developing the revised Investment Plan, we had to face the fact that our resources would not allow us to achieve this target over the next ten years. As a result, we've concluded that some lower-use, lower-speed roads cannot be repaired until their condition becomes very poor. Using this criteria, the average target is to repair 390 miles of roads, annually.



The reason we are below the 390 miles is that there are several large, costly projects in the program for 1991. Examples:

	<u>Million</u>
Military Street bridge, Port Huron	\$ 9
M-32 reconstruction in Montmorency County	\$ 8
I-75 resurfacing in Oakland County	\$ 6
I-94 rehabilitation in Jackson County	\$ 10
I-96 restoration in Clinton County	\$ 7
US-31 reconstruction in Mason County	\$ 7

These and other high-cost, low-mileage projects reduce the funds available to repair other roads and bridges, and reduce the total mileage accomplished this year.

REVENUES AND THEIR USES

Funds used to finance highway projects are provided by state and federal taxes on gasoline and automotive related items. Weight taxes also contribute about one quarter of the state funds. State taxes are returned to the department through the State Trunkline Fund. Federal taxes are returned to the department in the form of federal aid. About 62 percent of the highway construction is financed by federal aid. To maximize the return on state monies, state trunkline funds are first used to match federal aid. Any additional funds are then used to fund additional projects for which federal aid is not available.

FUNDING BY SOURCE

Our current estimate for fiscal year 1991 funding for capital improvements is shown below:

Millions

\$189	Federal Aid
101	State Trunkline Funds
<u>15</u>	Transportation Economic Development Fund
\$305	Total

In addition to the federal and state program, each year the state passes federal aid through to local units of government. In 1991, local governments will receive approximately \$82 million for projects on city and county roads and streets. When matched with local funds, the federal/local program will total approximately \$105 million. Local projects are not listed in this document.

Included in appendix A is a listing of the state trunkline projects for 1991. These projects are grouped into the program structure of preserve, improve, and expand. These categories are further divided into subcategories, called work-types. Improve and Expand work-types may include the preservation of an existing road along with the improve/expand work element. The categories are described on the following pages, along with the funding for each work-type subcategory.

FY 1991 Highway Program

Summaries by Non-Interstate and Interstate Classifications (\$1,000)

	NON-INTERSTATE		INTERSTATE		TOTAL	
	<u>Amount</u>	<u>Miles</u>	<u>Amount</u>	<u>Miles</u>	<u>Amount</u>	<u>Miles</u>
PRESERVE						
Reconstruction	\$ 20,333	38.2	\$ 14,874	14.4	\$ 35,207	52.6
Restoration & Rehabilitation	17,489	67.6	10,911	15.9	28,400	83.5
Resurface	50,137	171.1	8,210	19.2	58,347	190.3
Minor Widening	3,533	2.0	282	0.3	3,815	2.3
Traffic Operations/TSM	15,925		1,900		17,825	
Safety	10,600	0.9	1,500	0.5	12,100	1.4
Bridge Upgrade	9,532		27,214		36,746	
Roadside Facilities	2,745		1,853		4,598	
Miscellaneous	<u>4,000</u>				<u>4,000</u>	
SUBTOTAL	\$134,294	279.8	\$ 66,744	50.3	\$201,038	330.1
IMPROVE						
Capacity	19,213	13.9	2,081	0.4	21,294	14.3
Bridge Replacement	1,763		2,449		4,212	
Bridge Widening	825		0		825	
Roadside Facilities	<u>670</u>		<u>894</u>		<u>1,564</u>	
SUBTOTAL	\$ 22,471	13.9	\$ 5,424	0.4	\$ 27,895	14.3
EXPAND						
New Route	34,887	1.7	1,650		36,537	1.7
Relocation	17,063	10.4	1,840		18,903	10.4
Roadside Facilities	<u>0</u>		<u>9,563</u>		<u>9,563</u>	
SUBTOTAL	\$ 51,950	12.1	\$ 13,053		\$ 65,003	12.1
TRANSPORTATION ECONOMIC DEVELOPMENT FUND					\$ 10,900	
FEDERAL\STATE AID TOTAL					\$208,715	305.8
FEDERAL\LOCAL AID TOTAL					\$105,000	
GRAND TOTAL					\$409,836	

Note: This listing is from the PPF Data Base dated April 3, 1990. Amounts for Traffic Operations, Safety, and Miscellaneous categories are lump sum estimates. The Improve and Expand classifications include EDF projects, Interstate Completion and projects that are part preserve, part improve/expand. The Transportation Economic Development Fund reflects the EDF projects not already included in the Improve and Expand classifications.

PRESERVE COMPONENT

Traffic Operations **\$17,825,000**

This work includes items such as signing, pavement markings, and traffic signals. A lump sum budget amount is placed in this work-type for projects that will be developed throughout the year.

Safety **\$12,100,000**

Safety work includes intersection revisions, lighting, median barriers, guardrails, railroad crossing improvements, obstacle removal, and improvements that increase the ability of drivers to see approaching and crossroad traffic. This work-type also has a lump sum budget amount for future projects.

Bridge Rehabilitation **\$36,746,000**

This work-type includes all work related to extending the life of a bridge. Typical work includes replacing or resurfacing the deck, replacing the railings, making underwater repairs, painting, and minor widening (less than one lane in width).

Resurfacing **\$58,347,000**

This work involves putting a new surface on the highway. Often other work is done in addition to the new surface. This includes improvements to the road edges or shoulders, repair of cracks in the pavement, correction of drainage problems, and minor repairs to the roadway base. In general, a resurfacing project is less extensive and less costly than a full restoration of the roadway.

Restoration and Rehabilitation **\$28,400,000**

The purpose of this work-type is to make extensive repairs to a roadway. Old pavement may be removed, the roadway base and drainage improved, and a new or reconditioned surface put down. Safety improvements and other incidental work may also be included. The following are examples of typical work:

- Recycling existing pavement
- Adding three feet of paved shoulders
- Minor drainage and base improvements
- Joint repairs and pavement patching

A restoration and rehabilitation project is expensive, but less costly and less extensive than a reconstruction project.

Reconstruction **\$35,207,000**

This work-type calls for the removal and replacement of the old pavement. No additional lanes are added. It may include major changes to the elevation, drainage, and the roadway base. In general, this is an extensive reconstruction of the road and is more expensive than either a resurfacing or a restoration and rehabilitation project.

Minor Widening **\$3,815,000**

This work-type calls for widening an existing road without adding additional lanes. It includes adding turn lanes that are less than one-half mile in length.

Roadside Facilities **\$4,598,000**

These projects include renovations of rest areas, roadside parks and welcome centers; installing fences; planting trees, flowers, and grass; and other similar activities.

Miscellaneous **\$4,000,000**

This is a lump-sum amount for special situations that arise during the year which cannot be foreseen at this time.

IMPROVE COMPONENT

Capacity Improvement **\$21,294,000**

Projects in this work-type add at least one lane to an existing road. When necessary, the old roadbed is reconstructed or the pavement resurfaced. Passing lanes of more than one-half mile are included in this category.

Bridge Replacement **\$4,212,000**

A completely new bridge is constructed in the place of an inadequate old one. Incidental work to the road on either side of the bridge for an adequate approach may also be included.

Bridge Widening **\$825,000**

Projects in this work-type add lanes to an existing bridge. Other repairs to the bridge may also be included as well as work to the approach road on both sides of the bridge.

Roadside Facilities **\$1,564,000**

These projects include constructing sound barriers, new rest areas and welcome centers, installing fences, planting trees and flowers, and other similar activities.

EXPAND COMPONENT

New Routes **\$36,537,000**

This is the construction of a new road. The prime example is the construction of a new freeway, though the route need not be a freeway.

Relocation **\$18,903,000**

Under this work-type, a new road is constructed near, but not in the same place as, an existing road. The new road will take traffic off the old road, but the old road may remain to service neighborhood traffic. The old road may be retained under state jurisdiction or be turned over to the local area governing body.

Roadside Facilities **\$9,563,000**

These projects include constructing sound barriers, rest areas, installing fences, planting trees and flowers, and other similar activities on new roads.

"Taking the initiative to capture additional federal aid"

We are taking the initiative to include additional projects in our program so we can capture interstate 4R discretionary funds. If we are unable to capture these discretionary funds, the projects may need to be delayed to a future year. Programming in this manner allows us to capture as much federal aid as possible while maintaining flexibility to change as conditions change. We have adopted this approach to protect our program from fluctuations caused by federal funding changes.

Besides the construction projects listed in this program, we will continue preliminary engineering and right-of-way acquisition on a number of projects that are planned for construction beyond 1991. These costs are estimated to be around 12.5 million.

ACT 51 COMPLIANCE

This program is in compliance with the 90 percent maintenance provision of Act 51, of the Public Acts of 1951, as amended.

**COMPREHENSIVE TRANSPORTATION
PROGRAM**

1990-91 COMPREHENSIVE TRANSPORTATION PROGRAM

The Comprehensive Transportation Fund (CTF) supports local transit services, local bus new services, specialized services for seniors and handicappers, intercity passenger services, and freight services--helping keep public transportation "there" for everyone who needs it.

Local buses are there for people who need access to jobs, medical care, education, shopping, and leisure activities. Buses make seniors more mobile and self-sufficient. Buses with lifts are there for handicappers, helping them lead more independent lives.

Intercity buses are there for business and leisure travel. Amtrak passenger trains are there, too, for business and recreational travelers from Michigan and all over the country.

And, if your business depends on freight deliveries, Michigan's rail freight network is there for you.

The FY 1991 program will describe these services in more detail. It is based on estimated CTF revenue of \$179.1 million, special funds of \$4 million, and federal funds of \$15.9 million as shown in Table C-1.

The FY 1991 program is consistent with the CTF Investment Plan, which was recently developed to provide a framework for sound financial decisions. Estimated needs exceed estimated revenue in FY 1991 by more than \$25 million. Priority has been given to maintaining essential transportation service.

**TABLE C-1
CTF Revenue Estimates**

Gas & Registration	\$ 111,082,200
Sales Tax	47,160,000
Miscellaneous	<u>20,840,000</u>
CTF Subtotal	\$ 179,082,200
Intercity Bus Equip. Fund	2,000,000
Rail Freight Fund	<u>2,000,000</u>
Special Funds Subtotal	\$ 4,000,000
UMTA	\$ 15,350,000
FRA	<u>500,000</u>
Federal Funds Subtotal	\$ 15,850,000
Total Approp. Funds	\$ 198,932,200

TABLE C-2

FY 1991 COMPREHENSIVE TRANSPORTATION FUND PROGRAM

By Source of Funds
March 21, 1990

<u>Description</u>	<u>CTF</u>	<u>Special Funds</u>	<u>Federal</u>	<u>Totals</u>
Local Bus Operating Assistance - 70%	\$ 103,689,500	\$ 0	\$ 0	\$ 103,689,500
Section 18 Nonurban Assistance	<u>0</u>	<u>0</u>	<u>3,500,000</u>	<u>3,500,000</u>
	\$ 103,689,500	\$ 0	\$ 3,500,000	\$ 107,189,500
Intercity Passenger & Freight - 10%				
Intercity Service Development	\$ 1,100,000	\$ 0	\$ 0	\$ 1,100,000
Intercity Terminals	650,000	0	0	650,000
Intercity Bus Equipment	0	2,000,000	0	2,000,000
Rail Passenger Service	2,000,000	0	0	2,000,000
Marine Passenger Service	900,000	0	0	900,000
Transportation Service Directories	50,000	0	0	50,000
Freight Preservation/Development	4,200,000	2,000,000	500,000	6,700,000
Freight Property Management	2,600,000	0	0	2,600,000
Port Development	301,900	0	0	301,900
Discretionary	<u>3,010,900</u>	<u>0</u>	<u>0</u>	<u>3,010,900</u>
	\$ 14,812,800	\$ 4,000,000	\$ 500,000	\$ 19,312,800
Public Transportation Development - 20%				
Specialized Services	\$ 2,572,300	\$ 0	\$ 0	\$ 2,572,300
Local Share Bonus	1,000,000	0	0	1,000,000
Effective Service Bonus	1,000,000	0	0	1,000,000
Municipal Credit Program	1,000,000	0	0	1,000,000
Bus Transit Capital	9,800,000	0	11,000,000	20,800,000
Bus Property Management	225,000	0	0	225,000
Technical Studies	35,000	0	600,000	635,000
Planning Grants	50,000	0	0	50,000
Ridesharing	262,000	0	0	262,000
Vanpooling	125,000	0	0	125,000
Service Develop./New Technology	1,400,000	0	250,000	1,650,000
Discretionary	<u>12,155,800</u>	<u>0</u>	<u>0</u>	<u>12,155,800</u>
	\$ 29,625,600	\$ 0	\$ 11,850,000	\$ 41,475,600
PROGRAM TOTALS	\$ 148,127,900	\$ 4,000,000	\$ 15,850,000	\$ 167,977,900
DEBT SERVICE/ADMINISTRATION	30,954,390	0	0	30,954,300
TOTAL	\$ 179,082,200	\$ 4,000,000	\$ 15,850,000	\$ 198,932,200

TABLE C-3

FY 1991 COMPREHENSIVE TRANSPORTATION FUND PROGRAM

By Categories of Preserve, Improve, or Expand

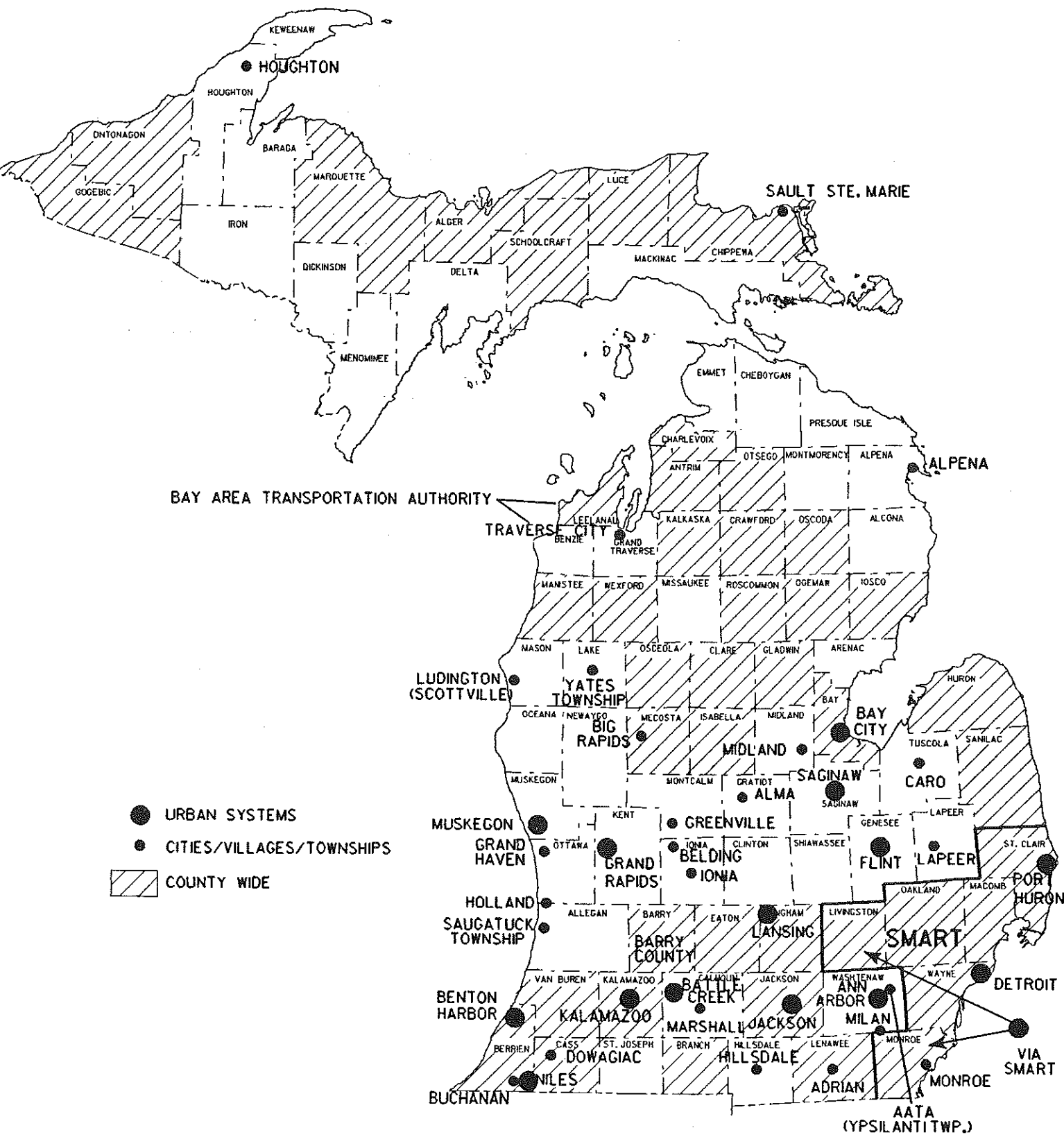
<u>Description</u>	<u>Preserve</u>	<u>Improve</u>	<u>Expand</u>	<u>Totals</u>
Local Bus Operating Assistance	\$ 107,189,500	\$ 0	\$ 0	\$ 107,189,500
Intercity Passenger & Freight	\$ 15,312,800	\$ 4,000,000	\$ 0	\$ 19,312,800
Public Transportation Development	\$ <u>36,475,600</u>	\$ <u>5,000,000</u>	\$ <u>0</u>	\$ <u>41,475,600</u>
PROGRAM TOTALS	\$ 158,977,900	\$ 9,000,000	\$ 0	\$ 167,977,900

<u>Preserve</u>	<u>Improve</u>	<u>Expand</u>
95%	5%	



Public Transportation: There when you need it.

MAP C-1 TRANSIT SYSTEMS



LOCAL BUS OPERATING ASSISTANCE-70%

\$103,689,500 CTF

This program provides public bus transportation service to the general public, senior citizens, and handicappers of our state. Each year local transit systems serve a ridership of approximately 90 million passengers, providing access to jobs, medical care, education, shopping, recreation, and other needed service. Funds are distributed to eligible systems based on the percentage of eligible operating expenses, limited by a growth cap. The growth cap for FY 1991 is just over one percent. This allocation does not include any improvement or expansion of services. The effect of the one percent growth cap for state funding, combined with constant federal dollars, is that local transit systems whose costs increase by more than one percent will be faced with the need for additional local funding or a reduction in services to avoid a deficit.

It is anticipated that there will be 15 urbanized and 52 nonurbanized transit systems serving communities throughout Michigan in FY 1991. Six urbanized systems also provide service in nonurbanized areas, as shown by the asterisks in the listing to the left. Map C-1 on the facing page shows the locations of these services across the state.

Performance data for FY 1989 (the most recently completed fiscal year) for urban transit systems are shown on Table C-4. Table C-5 shows performance data for nonurban systems.

NONURBAN OPERATING/CAPITAL

\$3,500,000 UMTA (Estimated)

This program, complementary to the Local Bus Operating Assistance program, provides federal operating assistance for public transportation in the

Urban Transit Systems - 15

Ann Arbor*	Kalamazoo
Battle Creek	Lansing*
Bay County*	Muskegon
Benton Harbor	Niles*
Detroit	Port Huron
Flint	Saginaw
Grand Rapids	SMART*
Jackson*	

* Combined urban and nonurbanized

Nonurban Systems - Countywide - 32

Alger County	Kalamazoo County
Antrim County	Kalkaska County
Barry County	Lenawee County
Bay Area	Manistee County
Berrien County	Marquette County
Branch County	Mecosta County
Charlevoix County	Ogemaw County
Clare County	Ontonagon County
Crawford County	Osceola County
Eaton County	Oscoda County
EUPTA	Otsego County
Gladwin County	Roscommon County
Gogebic County	Sanilac County
Huron County	Schoolcraft County
Iosco County	Van Buren County
Isabella County	Wexford County

Nonurban Systems - Noncountywide - 20

Adrian	Holland
Alma	Houghton
Alpena	Ionia
Belding	Lapeer Area
Big Rapids	Ludington Area
Caro	Marshall
Dowagiac	Midland
Grand Haven	Saugatuck
Greenville	Sault Ste. Marie
Hillsdale	Yates Township

nonurbanized areas of the state (under 50,000 population). Nonurbanized area transit systems and the nonurbanized portion of combined transit systems are eligible to receive these Federal Section 18 funds. Effective 1987, this federal program also provides funding under the Rural Transit Assistance Program.

TABLE C-4
URBAN TRANSIT SYSTEMS
FY 1989 Performance Data

<u>Location</u>	<u>Vehicles</u>		<u>Passengers</u>	<u>Percent Seniors</u>	<u>Percent Handicappers</u>
	<u>Regular</u>	<u>Lift-Equipped</u>			
Ann Arbor	2	61	3,700,325	9	4
Battle Creek	11	15	760,320	18	12
Bay County	2	23	613,793	22	23
Benton Harbor	8	5	145,835	26	1
Flint	43	46	3,250,752	4	5
Grand Rapids	72	11	3,893,484	6	4
Jackson	3	31	475,955	33	11
Kalamazoo	0	42	1,570,131	7	8
Lansing	2	54	3,857,882	NA	10
Muskegon	0	19	595,479	NA	NA
Niles	4	3	91,366	36	17
Saginaw	5	43	1,479,542	4	2
SMART	260	161	9,784,960	NA	NA
DDOT	<u>325</u>	<u>256</u>	<u>63,677,012</u>	11	1
TOTALS	737	770	93,896,836		



Urban Transit links people with jobs, schools, stores

TABLE C-5
NONURBAN TRANSIT SYSTEMS
FY 1989 Performance Data

<u>Non-County Systems</u>	<u>Vehicles</u>		<u>Passengers</u>	<u>Percent Seniors</u>	<u>Percent Handicappers</u>
	<u>Regular</u>	<u>Lift-Equipped</u>			
Adrian	3	3	101,656	38	21
Alma	4	2	75,979	29	12
Alpena	3	3	96,151	32	35
Belding	1	2	55,949	20	2
Big Rapids	5	3	84,740	19	15
Caro (Village)	2	4	69,784	30	23
Dowagiac	0	2	35,886	33	6
Greenville	2	2	48,448	36	10
Grand Haven	6	8	186,442	17	25
Hillsdale	5	2	104,853	24	17
Holland	8	4	117,770	30	31
Houghton	6	3	56,563	34	39
Ionia	4	2	53,600	24	7
Keweenaw Bay	3	1	22,361	19	23
Lapeer	4	5	60,608	25	37
Ludington	7	5	148,335	27	16
Marshall	1	3	63,025	20	4
Midland	5	5	109,198	17	39
Niles (Buchanan)	0	2	12,189	39	24
Saline	0	2	2,885	7	16
Saugatuck Twp.	1	3	35,449	47	10
S.S. Marie	1	2	48,108	29	10
Yates Twp.	<u>2</u>	<u>2</u>	<u>34,558</u>	22	36
Subtotals	73	70	1,624,527		

TABLE C-5
(Continued)

<u>County Systems</u>	<u>Vehicles</u>		<u>Passengers</u>	<u>Percent Seniors</u>	<u>Percent Handicappers*</u>
	<u>Regular</u>	<u>Lift-Equipped</u>			
Alger Co.	5	4	53,058	16	13
Antrim Co.	6	8	93,776	16	21
Barry Co.	0	6	66,154	13	8
Bay Area	14	8	312,189	17	33
Bay Co.	2	19	196,972	6	25
Berrien Co.	6	9	164,675	9	57
Branch Co.	4	5	97,480	19	45
CATA (Ingham Co.)	2	6	41,316	22	20
Charlevoix Co.	3	7	80,406	16	46
Clare Co.	5	4	64,875	18	46
Crawford Co.	3	9	97,201	20	8
Eastern U. P.	3	8	80,366	3	58
Eaton Co.	0	15	158,396	16	25
Gladwin Co.	3	10	123,459	21	29
Gogebic Co.	3	2	30,909	47	22
Huron Co.	10	9	136,553	7	33
Iosco Co.	2	6	50,237	26	34
Isabella Co.	7	15	268,496	11	57
Jackson	0	14	55,379	10	87
Kalamazoo Co.	0	15	89,532	16	79
Kalkaska Co.	2	7	78,370	21	35
Lenawee Co.	9	5	89,804	11	75
Manistee Co.	11	11	248,897	24	18
Marquette Co.	12	13	293,354	11	14
Mecosta Co.	2	6	65,768	12	60
Ogemaw Co.	1	5	43,278	26	31
Ontonagon Co.	3	3	34,556	23	25
Osceola Co.	1	5	61,534	24	60
Oscoda Co.	1	3	28,317	55	7
Otsego Co.	3	4	98,243	28	25
Roscommon Co.	6	5	127,381	17	9
Sanilac Co.	1	9	69,249	5	93
Schoolcraft Co.	3	2	38,714	19	42
SMART	13	23	413,662	17**	5**
Van Buren Co.	3	7	60,282	23	64
Wexford Co.	<u>5</u>	<u>7</u>	<u>119,763</u>	24	26
Subtotals	154	294	4,132,601		
NONURBAN TOTALS	227	364	5,757,128		

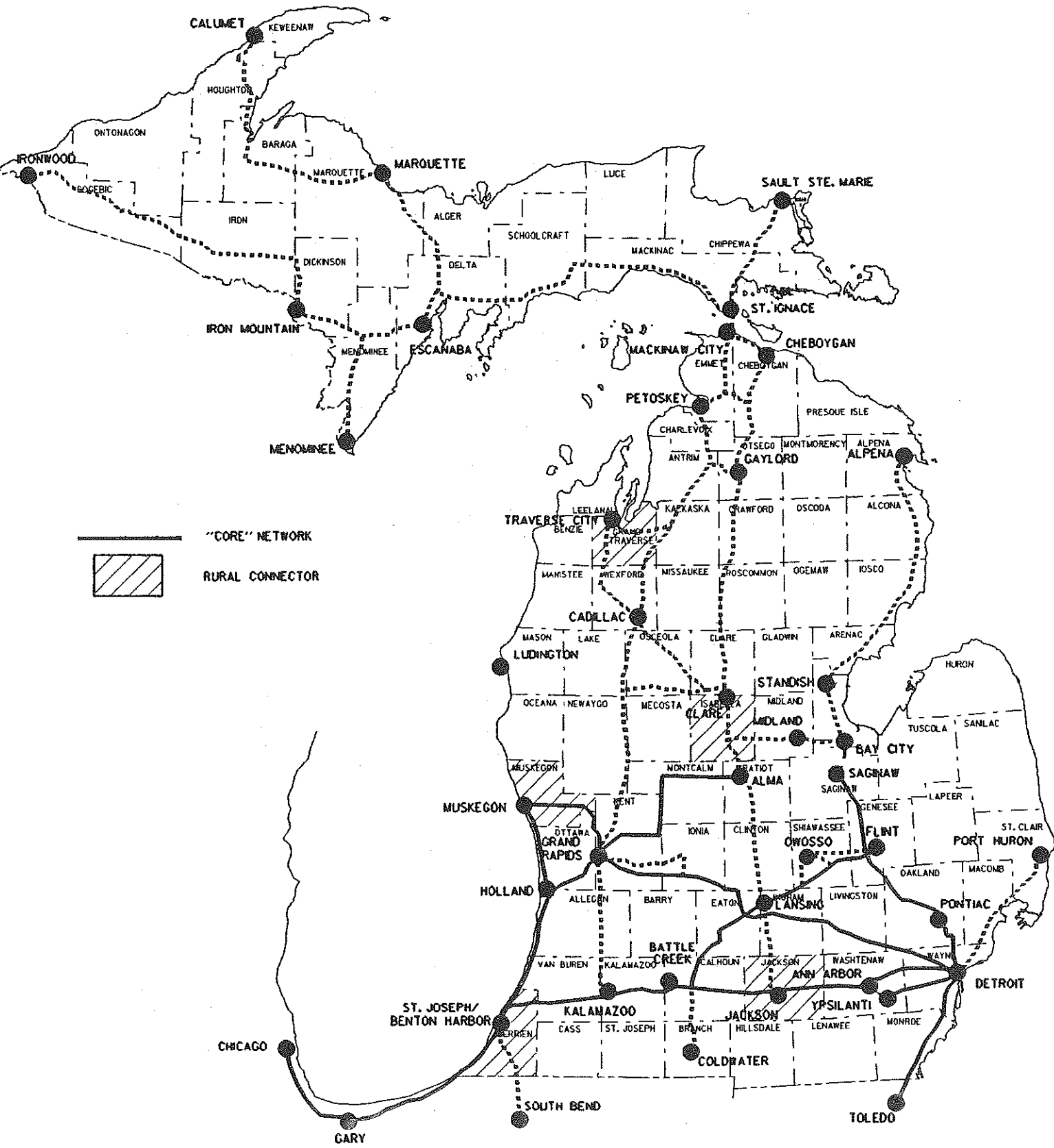
* = Includes Senior Handicappers

** = Estimated



And room for more!

MAP C-2 INTERCITY BUS NETWORK



INTERCITY PASSENGER AND FREIGHT TRANSPORTATION-10%

INTERCITY BUS SERVICE DEVELOPMENT

\$1,100,000 CTF

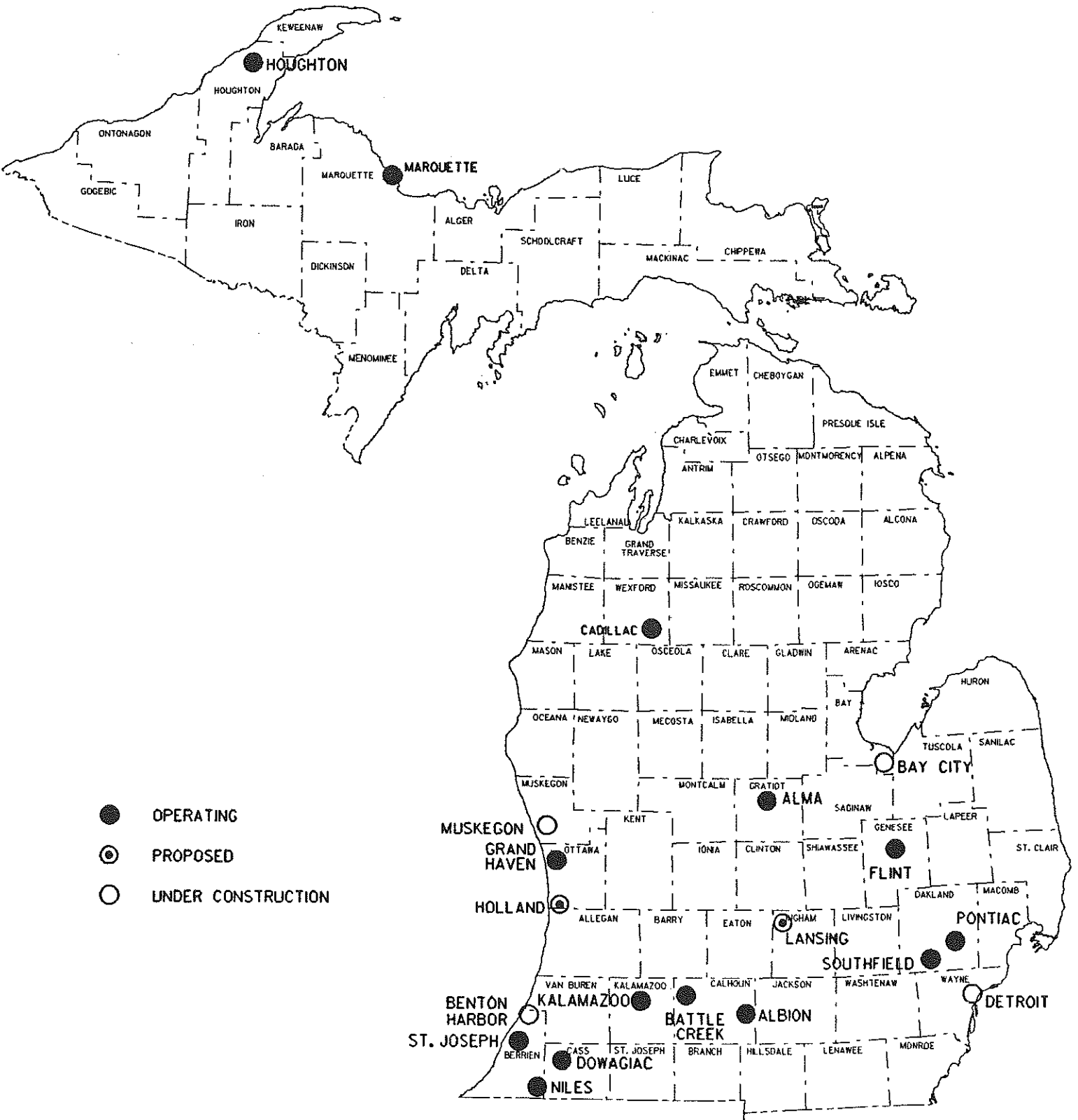
This project focuses on continuing the availability of intercity bus passenger services to smaller communities. Prior to deregulation in 1982, 11 major carriers provided intercity bus service to more than 550 Michigan communities. Today, there are only five carriers, and more than 100 communities have lost service. Map C-2 portrays Michigan's intercity bus network. Service development efforts seek to prevent community isolation and support tourism and economic development.

"Essential intercity transportation for students, families, and seniors."

- The **intercity marketing** program is designed to inform the public of the availability and advantages of intercity bus service. The goal is to enhance the image of public intercity surface transportation and to stimulate ridership on selected corridors. Promotion of intercity transportation is carefully aligned with the tourism industry so as to highlight the state's tourism programs.
- **Intercity bus operations assistance** is considered only if all other efforts, including marketing and the bus equipment program, have failed to maintain essential service. This program would provide financial assistance to continue or reinstate service where termination would cause isolation to an area not designated as part of the core network. Other program elements provide for one-year demonstration projects for new service and capital support for regular route enhancement.
- The **rural connector demonstration** projects, linking local bus services with intercity services, are funded from the Public Transportation Development Discretionary account. Please refer to that section for more information.

"Service development efforts seek to prevent community isolation."

MAP C-3 INTERMODAL PASSENGER FACILITIES



- The terminal security program offers two-year demonstration grants to enhance safety of local facilities. A 25 percent match is required for the first year; a 50 percent match is required for second-year funding. Security personnel, additional open hours, security hardware, and monitoring equipment are eligible costs.

TERMINAL DEVELOPMENT

\$650,000 CTF

The intercity passenger terminal program provides funding for passenger facilities to serve communities throughout Michigan. Locations are reviewed on a case-by-case basis to achieve the best response to transportation industry needs, coordination, and economic development. Detroit and Benton Harbor intercity passenger terminals were funded in FY 1989. Lansing, Holland, Muskegon, Cadillac, and Grand Haven are targeted to receive funding for intercity passenger facilities in FY 1990. The FY 1991 program targets completion of the Lansing project. This program has provided construction or development of convenient facilities for the traveling public throughout the state as shown on Map C-3.



Southfield Terminal

INTERCITY BUS EQUIPMENT PROGRAM

\$2,000,000 Equipment Fund

This program provides modern vehicles to serve intercity travelers throughout Michigan. Carriers that have operated under a certificate of authority for two years may lease a maximum of five units a year for up to six years each. A local match of two like buses owned by the carrier for every one bus requested is required. The lease rate is \$1 per year per bus. Carriers provide a security deposit of 2 percent of the vehicle purchase price and provide all necessary maintenance and operating costs. Use of the equipment is restricted to scheduled regular-route services that originate at, or are destined to, points in Michigan. This program enhances the operating safety and attractiveness of such service through provision of new equipment. The allocation is based on estimated repayments to the Intercity Bus Equipment Fund.

"Modern vehicles to serve intercity travelers throughout Michigan."



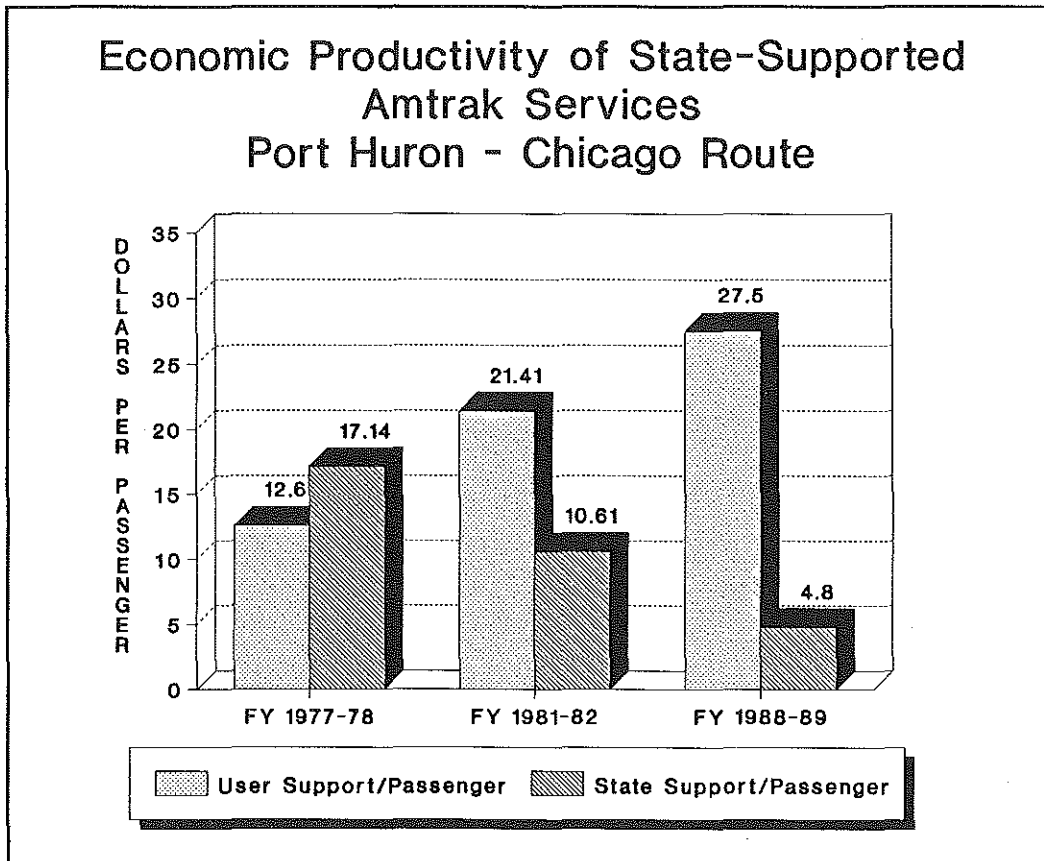
Ensuring your safety

RAIL PASSENGER SERVICE

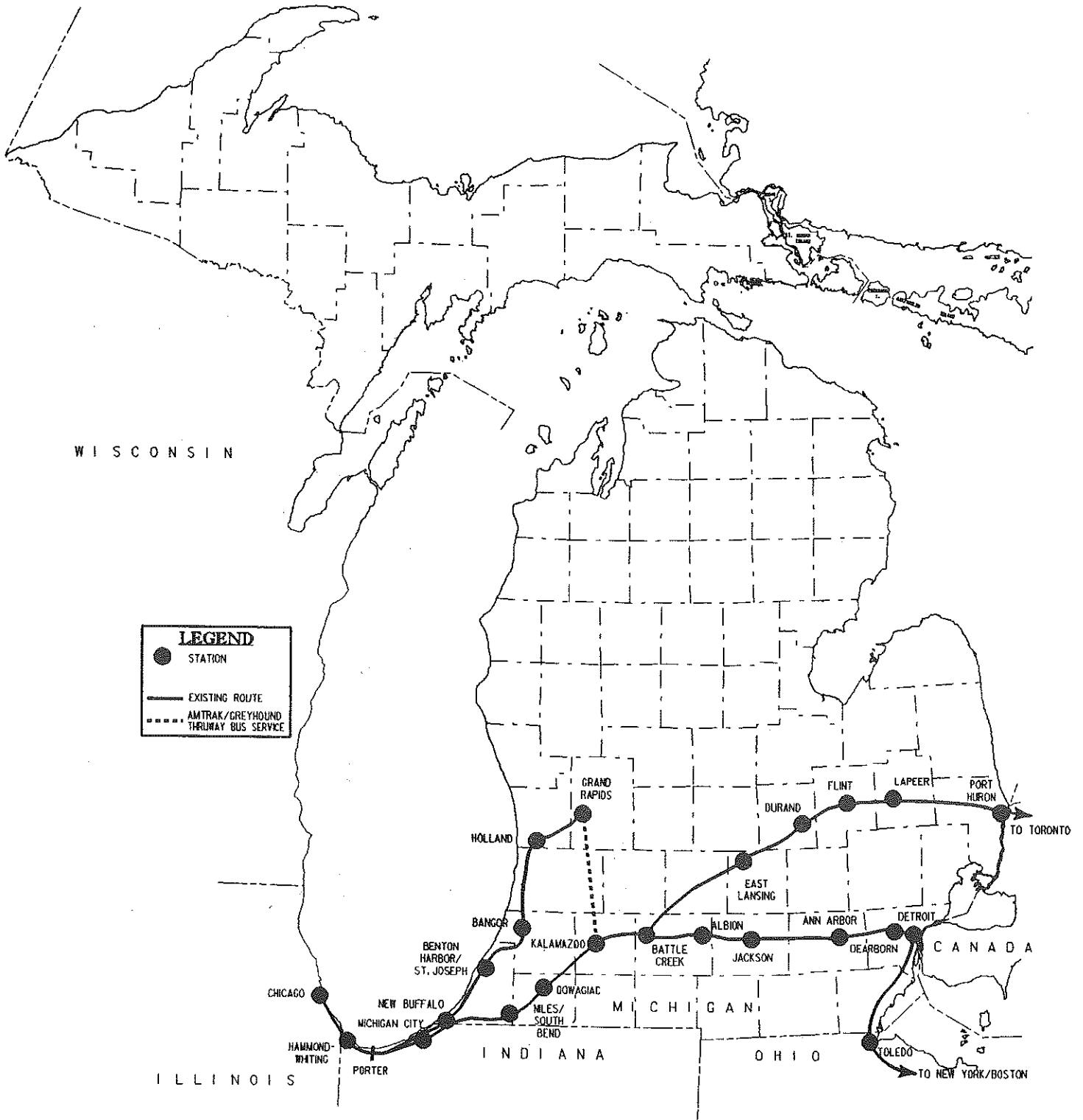
\$2,000,000 CTF

Rail passenger service provides an increasingly attractive mode of travel serving 20 communities along three primary Michigan routes. The "International" route links Port Huron, Flint, Lansing/East Lansing, and other central and eastern Michigan cities with Chicago and Toronto. The "Pere Marquette" service links Grand Rapids and other southwestern lower Michigan cities with Chicago. Amtrak's Detroit-Chicago route provides daily corridor service to Dearborn, Ann Arbor, Jackson, Albion, Battle Creek, Kalamazoo, Dowagiac, and Niles. These three routes served more than 460,000 rail passengers in FY 1989.

TABLE C-6



MAP C-4 RAIL PASSENGER NETWORK



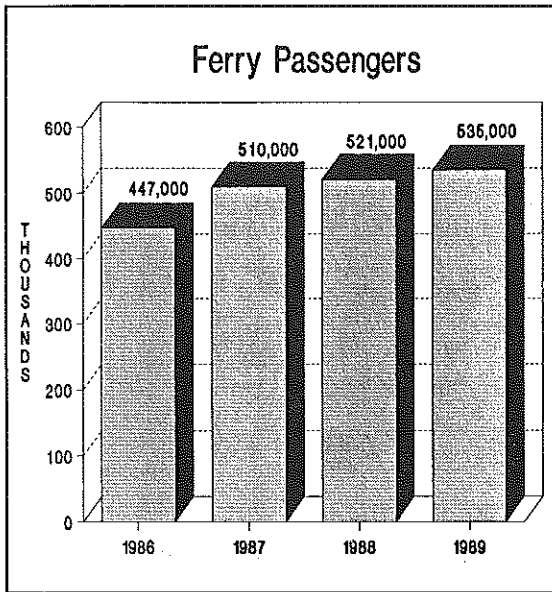
Rail passenger capital investments focus on passenger stations, track and signal improvements, equipment upgrading, and grade crossings to achieve improved service availability, attractiveness, safety, and performance. In FY 1991, funds are programmed for the refurbishment of a set of 12 rail cars so that needed equipment will be available for service to Michigan passengers. Most of these funds will be programmed from the Intercity Discretionary Account after costs have been identified.

Map C-4 shows Michigan's rail passenger network which extends more than 1,000-route miles. Table C-6, on page 41, shows economic performance trends impacting state assisted rail passenger services. From FY 1978 to 1989, user support increased from \$12.61 to \$27.50 per passenger, while state support required dropped from \$17.14 to \$4.80 per passenger.



Are we there yet, Mom?

TABLE C-7



"The public transportation directory is used by the tourism, industry, and the traveling public."

MARINE PASSENGER

\$900,000 CTF

The state provides operating and capital support to designated water ferry service linking Drummond, Neebish, and Sugar Islands with the Chippewa County mainland. These services are administered by the Eastern Upper Peninsula Transportation Authority. Residents of the islands are dependent upon these services for access to fuel and other basic supplies and services, as well as school and work transportation. Annual system passenger levels have increased by nearly 20 percent since 1986, as shown on Table C-7. A new vessel, delivered in fall of 1989, and dock repairs will offer improved service.

TRANSPORTATION SERVICES DIRECTORY

\$50,000 CTF

The Michigan Public Transportation Map and Directory is a helpful passenger services guide. This composite brochure, divided into geographic sections, shows all intercity bus, rail, airline, and ferry routes, and identifies communities with local bus service. The directory lists, by community, the available transportation services by mode, with phone numbers and addresses. These directories are used by the tourism industry, the public transportation industry, and the general public.

FREIGHT PRESERVATION AND DEVELOPMENT

\$2,000,000	Rail Freight Fund
500,000	Federal Railroad Administration
<u>4,200,000</u>	CTF
\$6,700,000	

"The statewide rail freight network plays a significant role in supporting economic development."

The freight transportation program helps assure that essential rail facilities are maintained for the movement of goods. Program policies include:

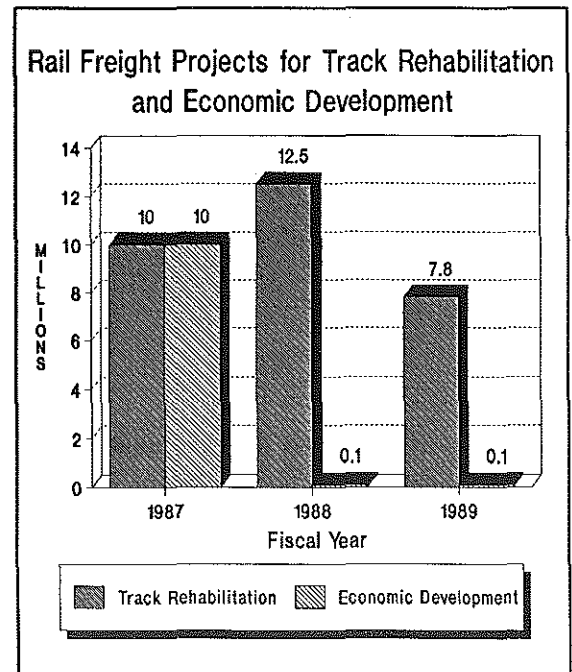
- Improvements to state-owned rail facilities will be prioritized according to available funds and relative importance of the project. Facility rehabilitation projects will be engineered based on concern for safety, traffic volume/tonnage, time sensitivity of commodities, function of segment in a corridor, and cost of operations.
- The state will consider purchase of a new line only where the proposed line is directly connected to a currently operating state-owned line, and the proposed line generates an annual minimum of 20 carloadings per mile. Acquisition of other lines may occur as a last resort to preserve service when a documented need exists and when other sources provide 50 percent of acquisition costs.
- Privately owned railroad companies may receive capital loans up to 30 percent of the total project cost to improve or expand the privately owned infrastructure.
- Non-transportation companies or local units of government may receive assistance for economic development purposes in the form of loans and/or grants up to 50 percent of the total cost of the rail freight portion of the project.

"Technical and financial assistance for Michigan's commercial rail network."

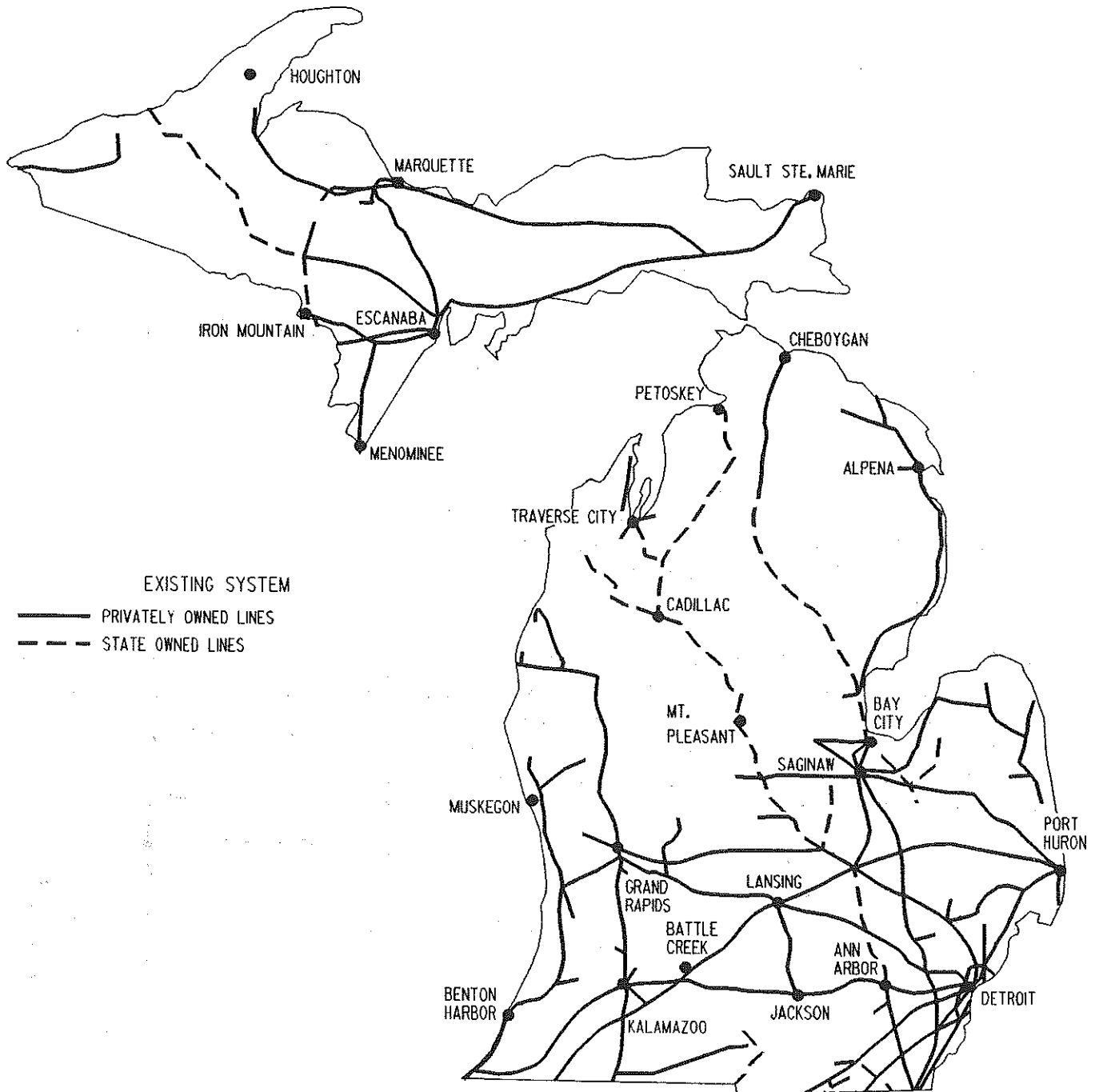
Michigan's rail freight network of approximately 4,400-route miles is shown on Map C-5. This network is operated by five major railroad companies and numerous short line, regional, and terminal companies. In 1989, an estimated 1,375,000 carloads were generated from Michigan stations.

Table C-8 shows rail freight investments over the last three years. Freight construction projects carried out in FY 1989 include evaluation of needed bridge repairs and improvements to state-owned track between Walton Junction and Traverse City and between Mancelona and Petoskey. The FY 1990 program continues the bridge repair evaluation and begins needed replacement work, and targets improvements to state-owned track between Kalkaska and Mancelona and between Owosso and Ithaca. The FY 1991 program will continue improvements to state-owned track, including bridge repair or replacements. The CTF funds shown here may be supplemented from the PTD Discretionary Account.

TABLE C-8



MAP C-5 MICHIGAN'S RAIL FREIGHT SYSTEM



FREIGHT PROPERTY MANAGEMENT

\$2,600,000 CTF

Effective property management is essential to protect the state's sizable investment in 872 miles of railroad rights-of-way, track structure, adjacent real estate parcels, and several buildings. Examples of expenses funded under this category are those arising from leases, taxes, inventory control, maintenance and repair, insurance, security, appraisals, and environmental clean-ups.



Field inspecting for quality projects

INTERCITY DISCRETIONARY ACCOUNT

\$3,010,900 CTF

The purpose of this program is to provide flexibility in responding to changing situations. Program plans include funding of rail passenger car refurbishment. Other needs will be evaluated on an ongoing basis. Programming of these funds is provided in quarterly reports.

PORT ASSISTANCE

\$301,900 CTF

The purpose of this program is to partially fund the operating budgets of eligible port authorities. By statute, upon city, county, and state approvals of an eligible port authority budget, 50 percent is to be funded by the state and 25 percent each from the city and the county. The Detroit/Wayne County Port Authority is the only authority currently eligible for this state assistance.

PUBLIC TRANSPORTATION DEVELOPMENT-20%

Public Transportation Development Project Summary	
Specialized Services	\$ 2,572,300
Local Share Bonus	1,000,000
Effective Service Bonus	1,000,000
Municipal Credit Program	1,000,000
Bus Transit Capital	20,800,000
Bus Property Management	225,000
Technical Studies	635,000
Planning Grants	50,000
Ridesharing	262,500
Vanpooling	125,000
Service Dev/New Tech	1,650,000
Discretionary	<u>12,155,800</u>
	\$ 41,475,600

*"Preserving essential services,
generating technical improvements
and encouraging economic
development."*

Sources

\$29,625,600 CTF
11,850,000 UMTA (Estimated)
 \$41,475,600

PROGRAM HIGHLIGHTS

Public Transportation Development supports sub-programs and projects that contribute to a balanced statewide network of public transportation services. Projects are selected based on statewide goals related to preserving basic services; generating technical improvements, and encouraging economic development. The first four projects are mandated by Act 51 of 1951. Each subprogram is described below:

1. Specialized Services

\$2,572,300 CTF

Many of Michigan's senior citizens and handicappers look to specialized services as a primary means of transportation. Act 51, as amended in 1987, provides

"Many Michigan seniors and handicappers look to specialized service as a primary means of transportation."

that not less than \$2,000,000 shall be distributed as grants for specialized services. This program receives an annual increase as limited by the same growth cap governing local transit operating assistance, which is just over one percent for FY 1991.

Performance data for those agencies receiving specialized services operating assistance in FY 1989 are provided in Table C-9 on the following pages.

2. Local Share Bonus

\$1,000,000 CTF

Recent amendments to Act 51 provide that not less than \$1,000,000 shall be distributed to local transit agencies as a local share bonus. These bonus funds will be distributed based on percentage of local revenue, weighted by population.

3. Effective Service Bonus

\$1,000,000 CTF

Recent amendments to Act 51 provide that not less than \$1,000,000 shall be distributed to local transit agencies as an effective service bonus. These bonus funds will be distributed based on farebox revenue as weighted by vehicle miles.

4. Municipal Credit Program

\$1,000,000 CTF

Recent amendments to Act 51 provide that not more than \$1,000,000 from the 20 percent allocation shall be distributed as part of the Municipal Credit Program. This program, administered by the Regional Transit Coordinating Council in southeast Michigan, assists local communities within the council's district in funding public transportation service.

"Assisting communities in funding local transit services."

TABLE C-9
FY 1989 PERFORMANCE DATA
Specialized Services for Seniors and Handicappers

<u>Location</u>	<u>Operator</u>	<u>Vehicles</u>		<u>Passengers</u>	
		<u>Regular</u>	<u>Lift- Equipped</u>		
Allegan Co.	Resource Development Comm.	0	2	82,338	
	Community Mental Health	0	5	4,706	
Alger/Marquette Cos.	Community Mental Health	0	1	2,500	
Alpena Co.	Thunder Bay Transit	0	14	60,754	
Baraga Co.	Baragaland SCC	0	1	2,309	
Barry Co.	County Transit	0	5	393	
Bay Co.	Bay/Alger ISD	0	1	314	
	Mass Transportation Authority	1	1	2,428	
Benzie Co.	HHC	0	1	3,547	
	Elders, Inc.	0	2	10,617	
Branch Co.	BATA	0	1	3,391	
Calhoun Co.	CAA SCMI	0	4	7,679	
Cheybogan Co.	COA	1	3	9,656	
Clinton Co.	CRV	0	1	27,654	
Delta/Menominee Cos.	CAA	0	1	36,678	
	GLPS	0	1	867	
Eaton Co.	Association for Retarded Citizens	4	0	77,406	
	Service Center for Visually Impaired	0	2	2,531	
	Centers for Gerontology	1	2	10,345	
	Haskell Owls	0	1	1,097	
	MSC	0	1	1,886	
	Carman/Ainsworth	0	1	1,459	
	DSS	0	1	811	
	CMH	0	1	1,138	
	GFB	0	1	99	
	JSS	0	1	1,197	
	TTM	0	1	1,213	
	MMC	0	1	723	
	Gratiot Co.	HIC	0	2	5,939
		Key Opportunity	1	7	42,552
	Hillsdale Co.	Copper Co. Workshop	0	1	3,946
Houghton Co.	CAA	0	2	3,430	
	City of	0	1	1,186	
	CATA	0	1	14,271	
Ingham Co.	COA	0	1	304	
Iron Co.	TRICO	0	2	18,974	
	UPCAP	0	8	24,807	
Jackson Co.	JTA	0	3	1,933	
Kalamazoo	CAV	0	3	4,987	
Kent Co.	Hope Rehabilitation Network	0	6	57,508	
	SN	0	2	4,341	
	Red Cross	0	9	817	
	ACSET	0	1	348	
	RCSC	0	2		

TABLE C-9
(Continued)

<u>Location</u>	<u>Operator</u>	<u>Vehicles</u>		<u>Passengers</u>
		<u>Regular</u>	<u>Lift- Equipped</u>	
Lapeer Co.	Christian FS	0	2	7,235
	COA (DSA)	0	1	NA
Lenawee Co.	ARCO	0	1	5,137
	MHS	0	1	1,073
	MRS	0	1	NA
Mackinac Co.	DOA	0	1	NA
	CAA	0	1	7,910
Marquette Co.	CMH	0	1	437
	MCTA	0	1	3,793
Mecosta Co.	COA	0	1	1,528
Midland Co.	COA	0	1	3,124
Missaukee Co.	NSR	0	1	185
Montmorency Co.	COA	0	1	721
Muskegon Co.	W. Michigan Center for Handicapped	0	2	25,985
	Red Cross	0	2	558
Newago Co.	Five Cap., Inc.	0	1	1,430
	ARC	0	1	4,094
Oceana Co.	COA	0	1	4,130
Otsego Co.	Transit	0	2	2,858
Ottawa Co.	Georgetown Seniors	0	4	1,895
	Holland DART	0	1	NA
	Grand Haven	0	1	NA
Petoskey	Friendship Center	0	4	22,075
Presque Isle Co.	COA	0	3	5,226
Saginaw Co.	COA	0	2	14,388
	Child Development Center	0	4	6,969
	Frankenmuth LH	0	1	628
Sanilac Co.	STC	0	5	251
Shiawassee Co.	COA	1	4	12,256
	ACKCO Service	1	2	10,498
St. Clair Co.	COA	3	6	25,379
St. Joseph Co.	COA	2	0	17,192
	Arch Workshop	0	7	35,049
Wayne/Oakland/	Brandon Twp.	0	1	1,232
Macomb Co./SMART	Macomb CSA	0	1	1,956
	CFSW	0	1	2,500
	TMG	0	1	2,002
	Warren P&R	0	5	13,916
	Southfield	0	2	3,827
	Rochester OP	0	1	15,207
	Livonia Const.	0	1	153
	AAA - 1B	0	1	1,709
	Livingston ARC	0	4	1,148
	Monroe OPC	0	1	600

**TABLE C-9
(Continued)**

<u>Location</u>	<u>Operator</u>	<u>Vehicles</u>		<u>Passengers</u>
		<u>Regular</u>	<u>Lift- Equipped</u>	
Wayne County/ SMART/DDOT	CASS	0	1	6,495
	CRAC	0	1	13,882
	CAUSE	0	1	1,139
Washtenaw Co.	Chelsea Area Transit	0	1	9,981
	Child & Family Service	0	2	7,301
	Manchester Senior Center	0	1	1,967
	Work Skill Corp.	0	1	4,965
	Whitmore Lake	0	2	5,058
	AATA	0	2	2,201
Milan	WARC	0	1	NA
	AID	0	1	NA
	MR5	0	1	NA
Yates Twp.	City	<u>0</u>	<u>1</u>	<u>45</u>
TOTALS		14	217	863,006

NA = Not available



Helping handicappers be more mobile

5. Bus Capital

\$ 9,800,000 CTF
11,000,000 UMTA (Estimated)
\$20,800,000

"There is a need for replacement vehicles and equipment."

This subprogram is designed to meet capital needs of local transit systems, including replacement and rehabilitation of transit vehicles and equipment, and construction or improvement of transit facilities. State funds are used to the extent possible to match funds from UMTA's Section 9, Section 3, and Section 16(b)(2) programs. For transit systems in nonurban areas, where federal funds are generally not available, 100 percent state funding meets these capital needs. The CTF funds shown here will be supplemented from the PTD Discretionary Account. In FY 1991, a shortfall of about \$25 million in state funds means that only the highest priority needs can be met. Priority will be given to replacement buses, and to matching federal funds. However, urban transit systems have in past years relied on federal funding that may not be available in FY 1991. Unless this federal funding can be captured, urban transit systems will have significant unmet capital needs because state funds, already insufficient to meet the match requirements, will not stretch to meet the federal share.

6. Bus Property Management

\$225,000 CTF

"The state loaner fleet meets emergency and special needs."

This subprogram funds operating costs for the central facility operated by Bus Transit Division. This facility, conveniently located near Dimondale, is used for inspecting vehicles, conducting vehicle maintenance training, and vehicle storage. This also funds insurance and bus rehabilitation costs for the state loaner fleet which is used to meet emergency or special needs of local transit systems.

7. Technical Studies

\$ 35,000 CTF
600,000 UMTA (Estimated)
\$635,000

"Providing technical assistance to local transit agencies."

These Section 8 Technical Studies focus on operational and technical problems of local transit agencies. Activities can include operational manuals, technical assistance, and program management. Specific projects are selected by the department's Technical Studies Committee after funding guidance is received from UMTA. In-kind services are used to the extent possible to capture maximum federal funds.

8. Planning Grants

\$50,000 CTF

With the concurrence of local transit agencies, several state metropolitan planning organizations utilize UMTA Section 9 funds for planning tasks directly related to the area's transit program. This subprogram provides matching funds on an 80 percent UMTA, 10 percent state, 10 percent local basis. The federal funds are granted directly to local transit agencies.

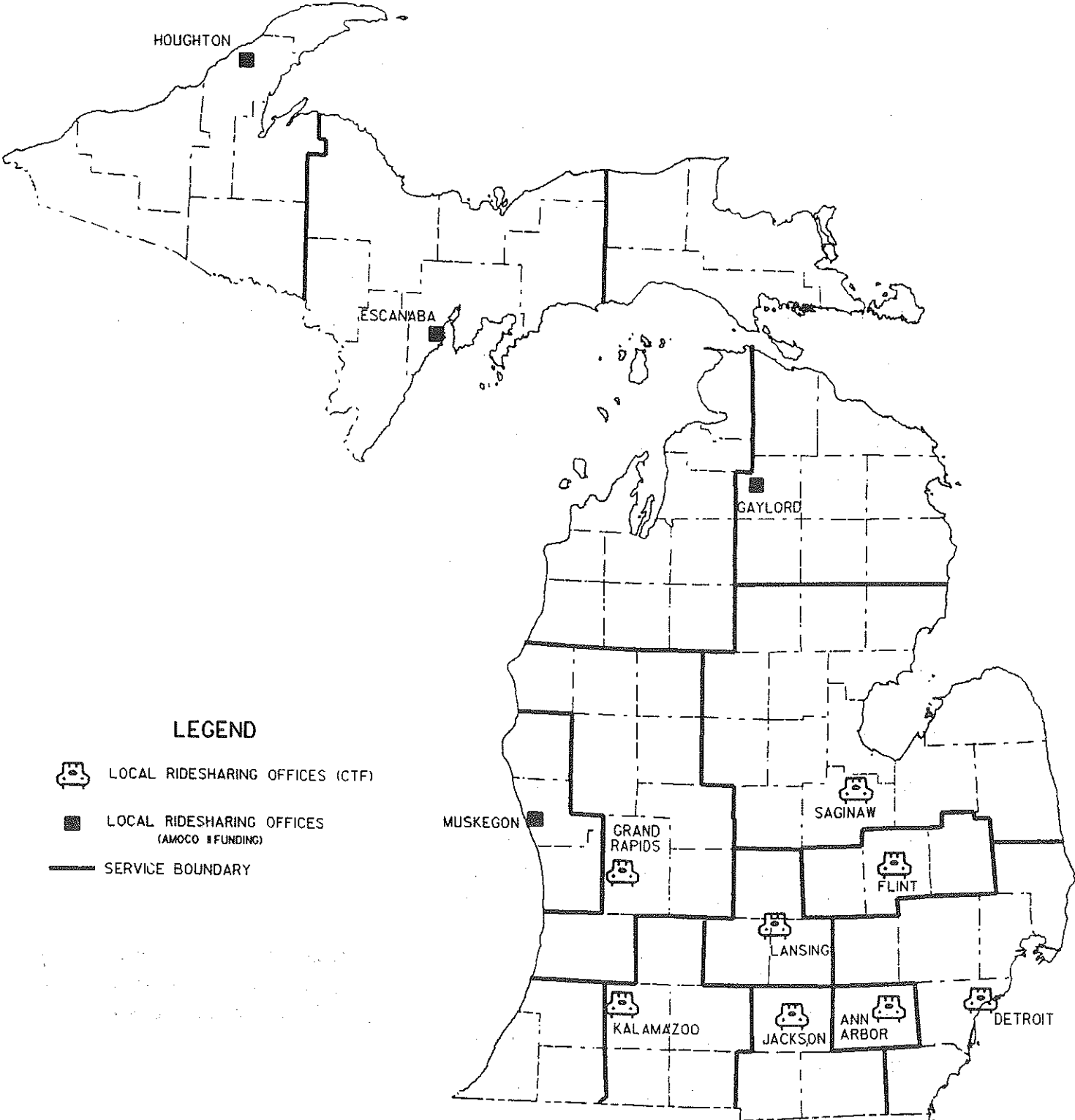
9. Ridesharing

\$262,500 CTF

Ridesharing programs assist in finding alternative transportation services. Ridesharing for the work trip reduces energy consumption, traffic congestion, air pollution, and parking problems. This subprogram provides grants to local agencies for ridesharing marketing, organizational, promotional, and demonstration efforts. Most of the costs are associated with the continued support of local ridesharing offices. Continuation grants are based on evaluation of effectiveness. Map C-6 shows ridesharing offices throughout Michigan. Table C-10 provides performance data for FY 1989 for ridesharing and vanpooling programs.

"Ridesharing can reduce traffic congestion, energy consumption, air pollution, and parking problems"

MAP C-6 RIDESHARING OFFICES



LEGEND




-  LOCAL RIDESHARING OFFICES (CTF)
-  LOCAL RIDESHARING OFFICES (AMOCO #FUNDING)
-  SERVICE BOUNDARY

TABLE C-10

FY 1989 PERFORMANCE DATA
Ridesharing and Vanpool Programs

	<u>Ridesharing</u>	<u>Vanpooling</u>
Number of Carpools/Vans	2,161	70
Number of Carpoolers/Vanpoolers	6,039	832
Reduction in No. of Vehicles on Road	2,485	629
Vehicle Trips Saved	1,242,502	319,475
Gallons of Gas Conserved	1,028,575	293,440
Tons of Pollutants Conserved	211	70

10. Vanpooling

\$125,000 CTF

This subprogram funds the continuation of MichiVan vanpool services to qualified community groups of eight or more persons throughout the state. Self-supporting except for marketing and administrative costs, MichiVan is an energy-efficient form of transportation that contributes to the relief of traffic congestion and air pollution. This subprogram, which has accelerated the expansion of vanpooling in Michigan, continues to meet transportation demands where public transportation is unavailable or is unsuited to commuter travel needs.

"MichiVan is an energy-efficient form of transportation."

11. Service Development and New Technology

\$1,400,000 CTF

250,000 UMTA (Estimated)

\$1,650,000

This subprogram is designed to assist public transportation providers to optimize present operations and to carry out research and development. Examples of major activities include

"Assisting public transportation providers to optimize operations."

development of computer hardware and software systems, improvements to communications equipment, assistance with vehicle maintenance schedules and vehicle purchases, development of a marketing program to promote greater awareness of public transit and to increase ridership, driver training programs, and technical assistance in accounting and financial management.

12. Public Transportation Development Discretionary

\$12,155,800 CTF

This discretionary account provides the department the ability to respond to emerging issues and to adjust resources for projects where funding requirements vary during the year. For example, this could fund essential transit services, critical needs for transit vehicles, investments on state-owned rail trackage, rail freight facilities to support newly announced economic development projects, or technical improvements. Programming to specific projects is provided in quarterly reports. Plans for funding from this account include:

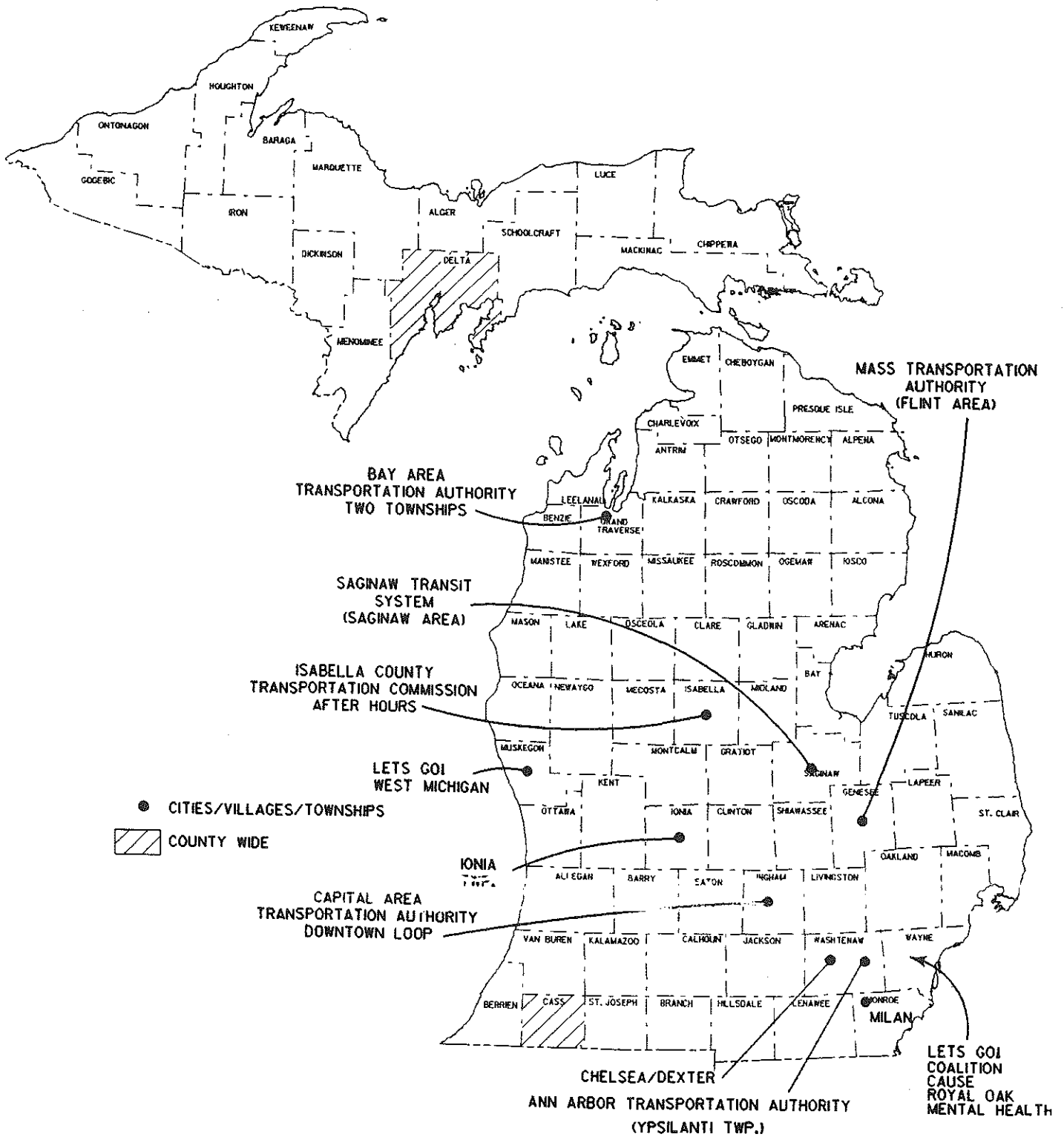
- Local New Bus Services, providing capital and operating assistance for new service projects. This program has a 95 percent success rate with the vast majority of communities opting to continue local funding after the initial three-year demonstration period.

Continuation systems for FY 1991 under the Local Bus New Service program, shown on Map C-7, are anticipated to require \$3.1 million. Performance data for systems operating in FY 1989 are shown on Table C-11. Those services that are in operation as of September 30, 1990, will receive first priority to be funded. Funding may not be sufficient for introduction of any new services in FY 1991.

Local Bus New Service Continuation Systems

Ann Arbor Transit
BATA
Cass County
Delta County
DDOT
Flint MTA
Ionia
Isabella County
Lansing Shuttle
Milan
Muskegon
Saginaw
SMART

MAP C-7 LOCAL BUS NEW SERVICE CONTINUATION SYSTEMS



- Statutory maximums of 40 percent of eligible operating expenses for urban transit systems and 50 percent for nonurban systems, limited by a growth cap. The 70 percent allocation of CTF program funds provides \$103.7 million for this purpose. It is estimated that an additional \$1.2 million will be required for Supplemental Operating Assistance.
- Supplementary Bus Capital funds to meet the extensive needs in that area.
- Continuation and expansion of the Rural Connector demonstration project that offers local bus connections for intercity travelers. The concept is to use existing local transit services to meet intercity bus arrival and departure schedules at central locations and transport passengers to communities not directly served by private intercity carriers. This has the twin advantages of extending service availability and increasing ridership. Six areas, shown in the box, are currently operating Rural Connector demonstration projects.

Rural Connector Service

Bay Area Transit
Benton Harbor - St. Joseph
Berrien County
Isabella County
Jackson County
Muskegon County

TABLE C-11

FY 1989 PERFORMANCE DATA
Local Bus New Services

<u>Location</u>	<u>Vehicles</u>		<u>Passengers</u>	<u>% Seniors and Handicappers</u>
	<u>Regular</u>	<u>Lift- Equipped</u>		
Bay Area	2	1	25,644	51
Cass County	5	4	47,224	54
Chelsea/Dexter	0	2	16,050	10
Delta County ¹	0	9	4,115	47
Flint	2	14	40,526	55
Ionia	1	2	4,098	25
Isabella	13	7	13,311	18
Lansing Shuttle	2	0	28,542	NA
Milan	3	3	53,329	5
Muskegon	0	2	2,355	90
Saginaw Co.	0	1	28,873	NA
SMART/DDOT	10	11	127,541	100
Ypsilanti Twp	<u>0</u>	<u>2</u>	<u>41,327</u>	15
Totals	38	58	432,935	

¹ Began operations 9/1/89



Public transit at your doorstep.

AVIATION



AVIATION

HIGHLIGHTS

As aviation in Michigan moves into a new decade, we will face new challenges in the preservation of airports, the funding of aviation programs and the retention of air carrier service to our communities. In working to promote the safe movement of people and goods, the Michigan Department of Transportation (MDOT) oversees a statewide system of airports. The Michigan Aviation System is composed of 236 airports and flying fields located throughout the state. Additionally, commercial airline service is available at 20 air carrier airports statewide.

Approximately half of Michigan's airports are publicly owned. Typically, airports are owned by cities, counties or semi-independent authorities formed by these jurisdictions. Through the years, a spirit of cooperation between these jurisdictions and state and federal agencies has assured that Michigan is able to sustain a quality system of airports and air service.

With an emphasis on maintaining the aviation infrastructure the airport development program focuses on preservation and capacity improvements at publicly-owned facilities across the state. Some of the major preservation and capacity projects include pavement rehabilitations at Detroit Willow Run, Cadillac, Charlevoix, Evart, Flint, Saginaw Tri City and Traverse City. Capacity related development is planned at Detroit Metro, Willow Run and Grand Rapids. A complete listing of the 1990-91 Aviation projects appears as Appendix A.

Several new programs have been introduced which are designed to enhance air service options for the citizens of the state. Access Michigan is a state and local cooperative venture designed to offer incentives for increased airline service to designated communities. The program is currently operating successfully in Traverse City. Enhanced services for Marquette and Pellston are presently under study.

A highly successful marketing campaign, "Fly From Nearby" will continue to offer grants to eligible airports so that they can promote their airport facilities and services. In 1989, this program was responsible for a 13 percent increase in air travel and received a national award for innovative advances in the air service field. The 1991 funding will provide grants for 17 airports for major advertising campaigns aimed at improving service at those airports.

AIRPORT SYSTEM

Michigan citizens are afforded access to the national air transportation system through airports located throughout the state. Two types of airports are commercial service and general aviation.

Commercial service airports are defined as airports having 2,500 or more annual boarding passengers (enplanements). There are currently 20 commercial service airports in Michigan. Primary commercial service airports are defined as having 10,000 or more yearly enplanements. There are currently 13 primary airports among the 20 commercial service airports in Michigan. Michigan has four additional airports with scheduled passenger service, which enplaned fewer than 2,500 people in 1989.

General aviation airports accommodate all other activity from crop dusting to passenger and cargo charters. Medical transport, business and executive flying, air-taxi, flight training, personal transportation, and many other business and recreational uses are accommodated at general aviation facilities. There are currently 218 general aviation airports in Michigan. Of them, 102 are publicly-owned and operated. One hundred sixteen are privately-owned and open to the public. These airports do not receive public funds but are widely used for business and utility purposes. Some of these airports are being squeezed out by competing land uses and increasing insurance and liability costs.

Reliever airports are general aviation airports which serve to reduce capacity problems at the larger commercial service airports. Michigan's reliever system centers around the greater Detroit metropolitan area.

Currently, six primary relievers are Willow Run, Oakland-Pontiac, Gross Ile, Port Huron, Monroe, and Howell. The Federal Aviation Administration's (FAA) funding program provides that 10 percent of federal funds at the national level be reserved for these airports. The 1991 funding for Michigan's reliever airports is anticipated to be \$2 million.

A sophisticated survey tool has been developed which assess the pavement condition, electrical and drainage elements at all airports that are eligible for federal funds. This information is maintained and updated periodically. It provides a reliable system for project selection and justification.

NAVIGATION SYSTEM IMPROVEMENTS

This year, the department will begin the first major overhaul of our states air navigation system in 18 years. The first phase of this program will be the replacement of 4 VOR/DME navigation systems. Ultimately, working jointly with the Federal Aviation Administration, we will replace all seven of these state systems to meet current national standards. Our current facilities consist of electronic equipment which has reached its life expectancy and has resulted in numerous intermittent problems. There are many reasons why this upgrade is necessary.

1. The most important is because of the age of some of this equipment, factory support and availability of some replacement parts is no longer available. If a major part were to fail, we would be unable to return the equipment to service for an extended period of time, if at all. This would be a serious detriment to the safety of pilots, passengers, and the communities served.
2. Upgrading our facilities would promote the State of Michigan as a leader in the aviation industry.
3. Maintaining safe, reliable, quality equipment enhances the accessibility of the airport, which in turn enhances the commerce of the community and surrounding area for which the navaid serves.

Our second project is the installation of on-site Remote Monitoring Equipment (RME), at those facilities where upgrading will not be possible right a way. This will allow us the opportunity to monitor our equipment from our shop in Lansing, through the use of computers and modems.

1. The main purpose of this project is to decrease the out of service (down) time of those navaid facilities. This results in the increase of safety, accessibility, and commerce as does the upgrade program. Through careful and repeated observation of the reports generated to our Lansing shop, by the on-site computer equipment, we will be able to pinpoint tendencies and potential trouble areas before an out of tolerance condition exists.
2. It allows for preventive maintenance. Should an out of tolerance condition exist, which results in out of service time, we will be able to determine exact cause prior to leaving the shop.
3. In many instances, it will save the time and expense of sending a technician into the field.

REVENUE SOURCES

Funding for aviation projects comes from federal grants, a state tax on airplane fuel, and local taxes. The bulk of the federal funds are provided through the federal tax on airline tickets. The chief source of income for state funds is the aviation fuel tax.

Federal grants are appropriated through the Airport and Airways Trust Fund. These grants fund airport projects that are on the National Plan of Integrated Airport System (NPIAS). To be placed on the NPIAS listing, an airport must serve a minimum of aircraft, must not duplicate existing service of another facility in the same general service area, and must be included in the Michigan Aviation System Plan (MASP). Justification for improvements, such as runway extensions, must be substantiated before funds are made available. There are currently 93 Michigan airports on the NPIAS.

Prior to any allocation of state or federal funds for a project, local revenue must be budgeted for the local match. State and local funds are used to match federal aid on a 50/50 ratio. If the state is unable to participate, projects are funded on a 90 percent federal and 10 percent local basis. Projects not receiving federal aid are typically funded on a 50/50 basis by state and local sources as funds allow.

The estimated revenues by source that are available for development projects for 1991 are shown below.

	<u>A List</u>	<u>B List</u>	<u>Total</u>
Federal Funds	\$29,536,000	\$4,877,000	\$34,413,000
State Funds	1,420,000	329,000	1,749,000
Local Funds	<u>4,817,000</u>	<u>347,000</u>	<u>5,164,000</u>
Total	\$35,773,000	\$5,553,000	\$41,326,000

The "A" List contains sufficient projects to use the expected funding levels for 1991. The "B" List adds projects to bring the levels up to the maximum funding should additional funds become available. The 1991 program projects a 10% increase over 1990 figures.

PRIORITIES

In 1989, the State Aeronautics Commission and the State Transportation Commission adopted the first Aeronautics Investment Plan. This plan estimates revenue for the years 1989-1998 and identifies priorities for the aeronautics program to guide program development in future years. The investment plan targets 74 percent of the expected revenue for capital improvement toward projects that will preserve the existing aviation system and 26 percent of the expected revenue toward improvement and expansion of the system over the next ten years.

Preservation projects are those which serve to maintain existing services, equipment and facilities. These would involve development directed at safety and security requirements; bringing an airport up to standards for that particular classification of airport (as described in the Michigan Aviation System Plan); projects required to preserve, repair or restore the functional integrity of the landing area, including electrical and navigational systems.

Improve/Expand projects are those which serve to develop an airport beyond its current classification, institute a new service or construct special economic development projects. These would involve development enabling an airport to handle larger aircraft; increase its capacity, development of the facility beyond the standards of its current classification and; economic development projects significant to the utilization of a particular facility.

Within the framework of the investment plan, state aviation funds are allocated to projects on the basis of the following priorities:

1. Safety - lighting, approach clearing and runway surfaces.
2. Primary airside - primary runways, taxiways, aprons, and associated land.
3. Secondary airside - secondary runways, taxiways, aprons and related development.
4. Primary Landside - terminal buildings, access roads, tie downs and T-hanger taxiways.
5. Secondary landside - fencing, storage buildings and service roads.

Projects which involve state aviation funds are allocated to one of two areas of development: Preservation or Improve/Expand.

The categories and expenditures of preserve and improve/expand for the 1991 A List are as follows:

PRESERVE

Special Programs/Safety **\$3,405,000**

This includes projects which are necessary to meet safety and security requirements.

Reconstruction **\$11,805,000**

This includes projects required to preserve, repair or restore the functional integrity of the airside facilities.

Standards **\$680,000**

This includes projects which bring existing facilities up to recommended standards established for the current classification of the airport.

Equipment and Buildings **\$1,050,000**

This includes maintenance equipment and support facilities, including terminals.

IMPROVE/EXPAND

Upgrading Airport Role **\$1,494,000**

This includes projects that will expand an airport's capability to handle large aircraft and longer, nonstop routes.

Capacity Development **\$17,340,000**

This includes projects intended to develop increased capacity at an existing airport.

New Airports - Capacity **\$0**

This includes projects intended to increase the overall systemwide capacity within a given area (i.e. new reliever or commercial service airports). There is no expenditure in this category for 1991.

New Airports - Community **\$0**

This includes construction of a new airport to serve an existing community. There is no expenditure in this category for 1991.

This year's program is more heavily weighted toward the improve/expand category than outlined in the 1989-1998 Aeronautics Investment Plan. This is due to several large and costly improve/expand projects at major urban airports. The department still intends to meet the allocation targets over the ten year investment plan time frame.

The funding for 1991 by category including both A and B projects are shown below.

AVIATION PROJECTS SUMMARY

Priority A & B Lists

	<u>Total</u>	<u>Federal</u>	<u>State</u>	<u>Local</u>
<u>Preserve</u>				
Safety	\$ 3,569,000	\$ 3,116,000	\$ 133,000	\$ 320,000
Reconstruction	12,792,000	10,753,000	520,000	1,519,000
Standards	680,000	494,000	61,000	125,000
Building & Equipment	<u>2,033,000</u>	<u>1,710,000</u>	<u>100,000</u>	<u>223,000</u>
Subtotal	\$19,074,000	\$16,073,000	\$ 814,000	\$2,187,000
 <u>Improve/Expand</u>				
Upgrade	\$ 1,494,000	\$ 1,344,000	\$ 22,000	\$ 128,000
Capacity Development	19,050,000	15,341,000	855,000	2,854,000
New Airports - Capacity	0	0	0	0
New Airports - Community	<u>1,708,000</u>	<u>1,538,000</u>	<u>85,000</u>	<u>85,000</u>
Subtotal	\$22,252,000	\$18,223,000	\$ 962,000	\$3,067,000
TOTALS	\$41,326,000	\$34,296,000	\$1,776,000	\$5,254,000

**APPENDIX A
HIGHWAY PROJECTS**

HIGHWAY PROJECTS by PROGRAM CATEGORY
FY 1991
 data base as of 04/03/90

April 3, 1990

PRESERVE Category

TRAFFIC OPERATIONS

ROUTE	LOCATION	COUNTY	WORK TYPE	TOTAL COST	LENGTH
I496	W-E JCT I96	INGHAM	YELLOWBOOK & SIGNING	\$ 31,000	11.8
I496	W-E JCT I96	INGHAM	SIGN REHABILITATION	74,000	11.8
US23	S CO L TO M55	IOSCO	SIGN UPGRADE	30,000	8.6
US23	M55 TO ALCONA N CO L	IOSCO	SIGN UPGRADE	172,000	48.8
US27	S CO L TO M20	ISABELLA	YELLOWBOOK & SIGNING	770,000	11.7
US27	M20 TO S OF N CO L	ISABELLA	YELLOWBOOK & SIGNING	660,000	13.9
US131	N PINE ISLAND RD TO JCT M46	KENT	SIGN UPGRADE	616,000	26.8
US131	I296 N TO PINE ISLAND RD	KENT	SIGN UPGRADE	115,000	4.8
US223	US127 TO US23	LENAWEE	SIGN UPGRADE	189,000	21.7
M3CONN	M102-14MI & REMICK-I94-M3	MACOMB	SIGN UPGRADE	122,000	15.5
US31	US31BR N TO N CO L	MUSKEGON	SIGN UPGRADE	368,000	27.9
US31	JACKSON ST TO US31BR	OTTAWA	SIGN UPGRADE	352,000	27.9
LUMP SUM ADDITIONS FOR TRAFFIC OPERATIONS:				\$ 14,326,000	
TOTALS FOR WORK TYPE: TRAFFIC OPERATIONS				\$ 17,825,000	231.2

SAFETY

ROUTE	LOCATION	COUNTY	WORK TYPE	TOTAL COST	LENGTH
M25	FINN RD TO E CO L	BAY	CULVERT EXTENSION	\$ 228,000	4.2
US27	S JCT US10 & US27	CLARE	EXTEND TAPERS	304,000	0.9
US2/41	@ INTCH OF M35 & 4TH AVE	DELTA	RIGHT TURN LANE	63,000	0.1
M100	M43 TO WILLOW HWY	EATON	CENTER LANE LEFT TURN	330,000	0.5
M100	@ M43	EATON	RIGHT TURN LANE	161,000	0.1
I96BL	@ WAVERLY RD & @ DELTA RD	INGHAM	WIDEN TURN LANE	494,000	0.5
I496	@ US127 ACCESS RAMP	INGHAM	REPLACE GUARDRAIL	107,000	0.3
I75NB	@ I75 BL(CASTLE ROCK RD)	MACKINAC	ACCELERATION LANE	92,000	0.0
M53	@ 14 MILE INTERCHANGE	MACOMB	CONSTRUCT NB TURN LANE	61,000	0.1
US31	@ SHERMAN BLVD	MUSKEGON	RECONSTRUCT S-BOUND RAMP	431,000	0.3
M15	@ SOUTH STREET	OAKLAND	PASSING LANE SB	109,000	0.1
I96	@ M11 W JCT	OTTAWA	RECONSTRUCT OFF RAMP	321,000	0.1
I75NB	@ M54/M83 (BIRCH RUN RD)	SAGINAW	WIDEN & RESURFACE	330,000	0.0
M102	@ 8 MILE RD	WAYNE	CROSSOVER IMPROVEMENT	58,000	0.0
US24	5 TO 6 MILE ROADS	WAYNE	CONSTRUCT CROSSOVERS	495,000	1.0
US24	M153 TO CHERRY HILL	WAYNE	CONSTRUCT CROSSOVERS	440,000	0.9
LUMP SUM ADDITIONS FOR SAFETY: RAILROAD AND MISCELLANEOUS PROJECTS				\$ 8,076,000	
TOTALS FOR WORK TYPE: SAFETY				\$ 12,100,000	9.1

BRIDGE REHABILITATION

ROUTE	LOCATION	COUNTY	WORK TYPE	TOTAL COST	LENGTH
I196	UNDER OLD US31	ALLEGAN	DECK OVERLAY, PAINTING	\$ 506,000	0.0
I196	OVER KALAMAZOO RIVER	ALLEGAN	DECK OVERLAY, PAINTING	1,650,000	0.0
M89	OVER KALAMAZOO RIVER	ALLEGAN	REPLACE SUPERSTRUCTURE	880,000	0.0
I194	OVER KALAMAZOO RIVER	CALHOUN	DECK OVERLAY, PAINTING	968,000	0.0

M68	OVER STURGEON RIVER	CHEBOYGAN	SUPERSTRUCTURE REPAIR, PAINT	275,000	0.0
I75NB	M72 TO N DOWN RIVER RD	CRAWFORD	DECK OVERLAY, PAINTING	803,000	0.0
US41	OVER TACOOSH CREEK	DELTA	STRUCTURE REPLACEMENT	419,000	0.0
I96	OVER CANAL RD	EATON	PAINTING, PIER REPAIR	407,000	0.0
M79	OVER LITTLE THORNAPPLE RIVER	EATON	REPLACE STRUCTURE	418,000	0.0
I69	OVER MILLER RD & RAMP	GENESEE	DECK OVERLAY, PAINTING, P & H	814,000	0.0
I69	OVER M121	GENESEE	DECK OVERLAY, PAINTING, P & H	715,000	0.0
M57	OVER FLINT RIVER	GENESEE	PAINT, BEARINGS, PIER REPAIR	704,000	0.0
US127	OVER BEECHER CREEK	HILLSDALE	BRIDGE REPLACEMENT	334,000	0.0
I196	@ M45	KENT	DECK OVERLAY, PAINTING	924,000	0.0
I96	OVER US31	KENT	PAINTING, JOINTS, P & H	1,067,000	0.0
US223BR	OVER RAISIN RIVER	LENAWEE	REPLACE SUPERSTRUCTURE	374,000	0.0
M34	@ RAISIN RIVER	LENAWEE	REPLACE BRIDGE	204,000	0.0
I94	OVER HARPER RD	MACOMB	PAINTING, RAIL REPLACEMENT	345,000	0.0
M95	OVER MICHIGAMEE RIVER	MARQUETTE	DECK AND P & H REPLACEMENT	831,000	0.0
US31	OVER C&O RAILROAD TRACKS	MASON	DECK REPLACEMENT, PAINTING	572,000	0.0
M116	OVER BIG SABLE RIVER	MASON	STRUCTURE REPLACEMENT	858,000	0.0
US41	OVER MENOMINEE RIVER	MENOMINEE	PAINTING	627,000	0.0
M37	OVER C&O RAILROAD	MUSKEGON	REPLACE STRUCTURE, APPROACH	1,772,000	0.0
I75NB	OVER DIXIE HWY	OAKLAND	PAINTING, P & H REPLACEMENT	308,000	0.0
M115	OVER MUSKEGON RIVER	OSCEOLA	DECK REPLACEMENT & PAINTING	726,000	0.0
M57	OVER MISTEQUAY CREEK	SAGINAW	REPLACE DECK, WIDEN, PAINT, PIERS	363,000	0.0
I75	UNDER BUSCH, TOWNLINE & CURTIS	SAGINAW	DECK OVERLAY, PAINTING, RAILS	1,078,000	0.0
I94BL	OVER BLACK RIVER	ST. CLAIR	REPLACE STRUCTURE	9,488,000	0.0
I196	OVER C&O RAILROAD	VAN BUREN	DECK OVERLAY, PAINTING	605,000	0.0
I196	OVER CR RAILROAD & BLACK RIVER	VAN BUREN	DECK OVERLAY, PAINTING	1,045,000	0.0
I96	UNDER BUCHANEN RD	WAYNE	OVERLAY, PAINTING, P & H	1,682,000	0.0
I96	UNDER FULLERTON AVE	WAYNE	STRUCTURE REHABILITATION	1,100,000	0.0
I96	UNDER UNDERWOOD RD	WAYNE	PAINTING, PINS & HANGERS	667,000	0.0
I96	UNDER JOY RD	WAYNE	STRUCTURE REHABILITATION	440,000	0.0
I96	@ M39	WAYNE	PAINTING	1,271,000	0.0
I96	UNDER BURT RD	WAYNE	PAINTING, PINS & HANGERS	1,331,000	0.0
M115	OVER MN RAILROAD	WEXFORD	OVERLAY, PAINTING & RL	175,000	0.0
TOTALS FOR WORK TYPE:			BRIDGE REHABILITATION	\$ 36,746,000	0.0

RESURFACE

ROUTE	LOCATION	COUNTY	WORK TYPE	TOTAL COST	LENGTH
US131	N OF M222 TO S OF 135TH ST	ALLEGAN	BITUM., RESURFACE & SHOULDERS	\$ 3,640,000	7.7
M40	FROM M222 NORTH 0.5 MILES	ALLEGAN	MILL & RESURFACE	385,000	0.5
M43	BROADWAY RD TO M66	BARRY	BITUM. RESURFACE & SHOULDERS	890,000	10.3
US31	RED BUD TR TO JASPER DAIRY RD	BERRIEN	MILL, RESURFACE, SHOULDERS	603,000	3.2
US31	MINORS RD TO ST. JOE RIVER	BERRIEN	WIDEN & RESURFACE	225,000	0.8
US12BR	E OF MAPLE ST TO E OF REUM ST	BERRIEN	BITUM. RESURFACE & SHOULDERS	283,000	1.5
I94BL	I69 INTCH E TO OLD US27	CALHOUN	MILL, RESURFACE, JOINT REPAIR	512,000	1.6
M37	M89 E TO MICHIGAN STREET	CALHOUN	MILL & BITUM. RESURFACE	476,000	1.3
I94BL	DIVISION ST TO GTW RAILROAD	CALHOUN	MILL, RESURFACE, JOINT REPAIR	342,000	0.7
US12	UNION EVL E TO SUSZEK RD	CASS	BITUM. RESURFACE, JOINT REPAIR	820,000	4.8
US12	M60 TO BEEBE RD	CASS	BITUM. RESURFACE & SHOULDERS	394,000	4.3
US27BR	TOWNLINE RD TO US27	CLARE	MILL, CRACK, AND RESURFACE	726,000	3.3
M18	S GO L TO M72	CRAWFORD	RESURFACE & SHOULDER	583,000	8.1
US2/41	FROM LUDINGTON ST NORTH	DELTA	MILL & RESURFACE	168,000	2.0
M35	GLADSTONE NVL TO PERKINS SVL	DELTA	PULVERIZE & RESURFACE	850,000	8.9
US12	CONCORD RD TO MOSCOW RD	HILLSDALE	RESURFACE & SHOULDERS	1,072,000	8.6
US41	CHASSEL RD TO PEARL RD	HOUGHTON	MILL & RESURFACE	1,662,000	7.9
M25	HELENA RD TO HARBOR BEACH SCL	HURON	MILL & RESURFACE	1,079,000	4.5
M142	CASEVILLE RD TO PIGEON SVL	HURON	MILL, RUBBELIZE & OVERLAY	455,000	0.8
I96BL	W OF W CO L TO CAPITOL AVE	INGHAM	RESURFACE & SHOULDERS	671,000	2.9
US127	N OF US12 TO S OF M50	JACKSON	MILL & RESURFACE	1,331,000	9.9
US131BR	WILLARD ST N TO HOPKINS ST	KALAMAZOO	MILL & BITUM. RESURFACE	539,000	0.9
M37	FROM ALPINE CHURCH AVE NORTH	KENT	RUBBELIZE CONCRETE PAVEMENT	4,400,000	5.5
M52	CHURCH ST TO FRONT ST	LENAWEE	MILL & RESURFACE	412,000	1.0
US23	S OF I96 TO M59	LIVINGSTON	RUBBELIZE & BITUM. RESURFACE	4,648,000	8.2
I96BL	E OF HOWELL TO I96	LIVINGSTON	MILL & RESURFACE	566,000	1.8
M3	M102 N TO I696	MACOMB	PAVEMENT REHABILITATION	4,950,000	3.4
M97	M102 TO 14 MILE RD	MACOMB	MILL, RESURFACE & JOINT REPAIR	3,034,000	7.1
US31DET	DETOUR STILES-FOUNTAIN-US31	MASON	BITUMINOUS RESURFACING	407,000	9.5
US41	MENOMINEE CL TO CO RD 338	MENOMINEE	RESURFACE, JOINTS, SHOULDERS	1,262,000	9.0

M20	MAIN ST TO INDIAN ST	MIDLAND	MILL & BITUM. RESURFACE	81,000	0.3
M20	BETWEEN JEROME ST & HALEY ST	MIDLAND	BITUMINOUS RESURFACING	564,000	0.7
M32TB	E OF HALL RD TO M33	MONTMORENCY	RESURFACE	115,000	1.7
M120	S END OF B01 TO LAKE AVE	MUSKEGON	RESURFACE & SHOULDERS	506,000	1.2
I75	N OF 11 MILE RD TO I-75 BL	OAKLAND	CONCRETE PATCHING, RESURFACE	6,119,000	12.2
M24	OXFORD N CL TO OAKLAND CO LINE	OAKLAND	BITUMINOUS OVERLAY	2,410,000	4.2
M24	LAKE ORION N CL TO OXFORD N VL	OAKLAND	BITUMINOUS OVERLAY	1,779,000	3.1
M115	OLD M61 TO 50TH AVENUE	OSCEOLA	RESURFACE	1,182,000	4.3
M25	LEXINGTON NVL TO PT SANILAC SVL	SANILAC	MILL & RESURFACE	1,887,000	10.2
M25	LEXINGTON SVL TO NVL	SANILAC	MILL & RESURFACE	743,000	1.1
M40	PAW PAW NVL TO GOBLES SCL	VAN BUREN	RESURFACE, UPGRADE SHOULDERS	1,320,000	8.2
US12	E OF I94 TO E CO L	WASHTENAW	BITUM. RESURFACE & SHOULDERS	3,900,000	2.5
M37	W JCT M115 TO MESICK ECL	WEXFORD	MILL & RESURFACE	356,000	0.6

TOTALS FOR WORK TYPE: RESURFACE \$ 58,347,000 190.3

RESTORATION & REHABILITATION

ROUTE	LOCATION	COUNTY	WORK TYPE	TOTAL COST	LENGTH
I94	ST LOUIS E TO LAPORTE RD	BERRIEN	JOINTS & PAINTING	\$ 817,000	1.5
M75	@ BOYNE RIVER	CHARLEVOIX	CONSTRUCT PERMANANT CULVERT	137,000	0.0
US31	HURLBUT ST TO CHARLEVOIX NCL	CHARLEVOIX	MILL & RESURFACE	358,000	1.4
I96	CLINTON CO LINE TO WACOUSTA RD	CLINTON	CONCRETE OVERLAY, DRAINS	7,425,000	6.8
US2/41	M35 TO US41 W/RAPID RIVER	DELTA	JOINT REPAIR & CRACK SEALING	126,000	6.2
M50	I69 TO W OF M99	EATON	BITUMINOUS SHOULDERS	420,000	8.5
US23	N OF THOMPSON TO I75	GENESEE	MILL, RUBBELIZE, OVERLAY W/BITUM.	7,191,000	6.2
M22	OVER BELANGERS CREEK	LEELANAU	CULVERT REPLACEMENT	86,000	0.0
M134	I75 TO 3 MILE RD INTERSECTION	MACKINAC	BITUMINOUS SHOULDERS	400,000	13.8
M50	W OF ANN ARBOR RAILROAD	MONROE	SLOPE REPAIR, EROSION CONTROL	230,000	0.2
I75	M-102 TO N OF 12 MILE RD	OAKLAND	CONCRETE PATCHING, RESURFACE	1,320,000	4.4
M32	MURNER TO HAYES & I75/GAYLORD	OTSEGO	MILL & RESURFACE	1,650,000	2.6
M55	FEDERAL AVE TO M18	ROSCOMMON	MILL & RESURFACE	911,000	5.3
M81	INDIANTOWN RD TO TUSCOLA CO L	SAGINAW	JOINTS & SHOULDERS	3,858,000	8.8
M140	COVERT NVL TO I196	VAN BUREN	BITUMINOUS SHOULDERS, CULVERTS	193,000	4.5
M51	DECATUR NVL TO 76TH ST	VAN BUREN	SEALING & BITUMINOUS RESURFACE	212,000	1.9
I196OLD	M140 TO NORTH SHORE DR	VAN BUREN	BITUM. RESURFACE & SHOULDERS	1,349,000	3.2
US131	N OF BOON RD TO M42	WEXFORD	MILL & REHABILITATE RELIEF LANES	1,717,000	8.4

TOTALS FOR WORK TYPE: RESTORATION & REHABILITATION \$ 28,400,000 83.7

RECONSTRUCTION

ROUTE	LOCATION	COUNTY	WORK TYPE	TOTAL COST	LENGTH
I94WB	WEIGH STATION, NEW BUFFALO	BERRIEN	DYNAMIC SCALE	\$ 173,000	0.0
I94WB	WEIGH STATION, NEW BUFFALO	BERRIEN	STATIC SCALE	195,000	0.0
M99	ASH ST N TO G01	CALHOUN	REPLACE BRICK W/BITUM. SURFACE	824,000	0.4
M37NB	KENDALL ST TO WASHINGTON ST	CALHOUN	MILL & RESURFACE, CURB/GUTTER	364,000	0.4
M69OLD	DELTA W CO LINE TO US2	DELTA	RECONSTRUCT	1,100,000	5.5
M183	VAN'S HARBOR RD TO TEMPLE ST	DELTA	RECONSTRUCT	497,000	0.8
US41	M203/HANCOCK-COBURN TOWN RD	HOUGHTON	WIDEN, RECONSTRUCT	2,383,000	2.2
I94WB	@ CONCORD RD & MICHIGAN AVE	JACKSON	RECONSTRUCT & INTCH UPGRADE	4,662,000	6.3
I94EB	1.2 MI W OF W CO L TO MICH AVE	JACKSON	RECYCLE & 3 STRUCTURES	4,661,000	6.3
M26	@ EAGLE RIVER	KEWEENAW	APPROACH & DECK	69,000	0.0
M53	S OF I69 INTCH OF PICKERAL DRN	LAPEER	FILL, BITUM. SURFACE & SHOULDER	109,000	0.6
I75BL	ANTOINE ST TO I75	MACKINAC	RECONSTRUCT, RESURFACE	1,025,000	1.8
US31	HANSON RD TO FOUNTAIN RD	MASON	RECONSTRUCTION & DRAINAGE	2,958,000	5.0
US31	FOUNTAIN RD TO 0.7 N OF CO L	MASON	RECONSTRUCTION & DRAINAGE	3,922,000	9.9
M32	HALL RD TO MONTMORENCY ECL	MONTMORENCY	RECONSTRUCT & RELOCATE	7,713,000	12.9
I96	@ MILFORD RD INTERCHANGE	OAKLAND	INTERSECTION RECONSTRUCTION	4,158,000	0.0
US24RMP	US24 NB RAMP TO ECOURSE RD	WAYNE	PAVEMENT REHABILITATION	394,000	0.5

TOTALS FOR WORK TYPE: RECONSTRUCTION \$ 35,207,000 52.6

MINOR WIDENING

ROUTE	LOCATION	COUNTY	WORK TYPE	TOTAL COST	LENGTH
M40	US31/M40 TO 32ND ST	ALLEGAN	WIDEN, CURB & GUTTER	\$ 333,000	0.4
M72/93	W OF M72 TO E OF NORWAY ST	CRAWFORD	WIDEN, CURB & GUTTER, DRAINAGE	286,000	0.3
M106	ROSEHILL RD TO PORTAGE RD	JACKSON	WIDEN & RESURFACE, SHOULDERS	495,000	2.5
M45	GRAND RIVER TO DIVISION	KENT	RECONSTRUCT TO 5 LANES	1,023,000	0.4
M53	NEWARK TO 2ND ST	LAPEER	WIDEN TO 5 LANES	1,111,000	1.1
I96BL	@ LATSON RD	LIVINGSTON	INTERSECTION IMPROVEMENTS	230,000	0.3
M10SB	12 MI RD TO W OF BECK RD	OAKLAND	WIDEN TO 3 LANES	285,000	0.2
I275NB	@ 8 MILE RD	WAYNE	WIDEN RAMP	52,000	0.1
TOTALS FOR WORK TYPE:			MINOR WIDENING	\$ 3,815,000	5.3

ROADSIDE FACILITIES

ROUTE	LOCATION	COUNTY	WORK TYPE	TOTAL COST	LENGTH
I69NB	COLDWATER WELCOME CENTER	BRANCH	MODERNIZE RESTROOMS	\$ 330,000	0.0
I96	BLISS RD E OF CUTLER	IONIA	REPLACE FENCE	51,000	2.7
US127SB	REST AREA N OF JACKSON	JACKSON	RECONSTRUCT RESTROOMS	29,000	0.0
I94	US127 E JCT E TO W/I94 BL	JACKSON	REPLACE FENCE	30,000	1.9
I96	MORSE LAKE RD E TO BELL RD	KENT	REPLACE FENCE	51,000	0.0
US131SB	36TH ST TO M11	KENT	NOISE BARRIER	2,475,000	1.1
I96	FOWLerville RD SE TO M59	LIVINGSTON	REPLACE FENCE	124,000	4.5
I96	@ WEIGH STATION, FOWLerville	LIVINGSTON	CONVERT SCALE	330,000	0.0
US2	ROADSIDE PARK E OF NAUBINWAY	MACKINAC	CONSTRUCT BUILDING	241,000	0.0
I275	CARELTON/ROCKWOOD/NEWBURG	MONROE	SLOPE REPAIR TO BIKE PATH	173,000	1.2
I94	WCL TO ECL, DETROIT	WAYNE	CALL BOXES	764,000	13.5
TOTALS FOR WORK TYPE:			ROADSIDE FACILITIES	\$ 4,598,000	24.9

IMPROVE

CAPACITY IMPROVEMENT

ROUTE	LOCATION	COUNTY	WORK TYPE	TOTAL COST	LENGTH
US131	S OF LEARS TO HILLCREST ST	EMMET	RELIEF LANE, CURB & GUTTER	\$ 616,000	1.2
I94	@ SPRINKLE RD	KALAMAZOO	RELOCATE RAMPS	302,000	0.4
M44	N OF 3 MILE RD-S OF 4 MILE RD	KENT	RECONSTRUCT TO 2@24 BLVD	3,949,000	2.0
M53	2ND ST TO 3RD ST	LAPEER	WIDEN TO 4 LANES	109,000	0.1
M28	M117 E TO M123	LUCE	PASSING LANES & SHOULDERS	2,255,000	3.0
US2	PRICE RD TO TOMS CREEK AREA	MACKINAC	PASSING LANES & SHOULDERS	1,392,000	3.3
US31	@ STERNBERG RD	MUSKEGON	INTERSECTION CONSTRUCTION	5,595,000	0.0
M15	US24 TO PARAMUS	OAKLAND	WIDEN, STORM SEWERS	459,000	0.4
M25	PORT SANILAC SVL N TO NVL	SANILAC	WIDEN TO 4 LANES, RESURFACE	848,000	1.0
US12BR	MILES ST TO HARRIS RD	WASHTENAW	WIDEN TO 5 LANES, CURB/GUTTER	990,000	0.7
US12BR	HARRIS RD TO E CO L	WASHTENAW	WIDEN, CURB/GUTTER, RESURFACE	3,000,000	2.2
I75	@ AMBASSADOR BRIDGE REST AREA	WAYNE	SERVICE ROAD IMPROVEMENT	1,779,000	0.0
TOTALS FOR WORK TYPE:			CAPACITY IMPROVEMENT	\$ 21,294,000	14.3

BRIDGE REPLACEMENT

ROUTE	LOCATION	COUNTY	WORK TYPE	TOTAL COST	LENGTH
M37	@ C&O RAILROAD	MUSKEGON	RELOCATE APPROACH	\$ 1,213,000	0.0
M150	OVER PAINT CREEK	OAKLAND	REPLACE BRIDGE, WIDEN TO 5 LANES	550,000	0.0
I75	@ WALTON BLVD	OAKLAND	APPROACH & REPLACEMENT	1,437,000	0.0
I94	UNDER PLATT RD	WASHTENAW	BRIDGE REPLACEMENT	1,012,000	0.0
TOTALS FOR WORK TYPE:			BRIDGE REPLACEMENT	\$ 4,212,000	0.0

BRIDGE WIDENING

ROUTE	LOCATION	COUNTY	WORK TYPE	TOTAL COST	LENGTH
US23	UNDER ELLSWORTH RD	WASHTENAW	WIDEN BRIDGE	\$ 825,000	0.0
TOTALS FOR WORK TYPE:			BRIDGE WIDENING	\$ 825,000	0.0

ROADSIDE FACILITIES

ROUTE	LOCATION	COUNTY	WORK TYPE	TOTAL COST	LENGTH
I94	NEW BUFFALO WELCOME CENTER	BERRIEN	SUPPLY BUILDING	\$ 69,000	0.0
M26	MALL TO HOUGH./HANCOCK BRIDGE	HOUGHTON	LANDSCAPING	104,000	0.0
M15	US24 TO PARAMUS	OAKLAND	PLANTING TREES	9,000	0.0
I696	ORCHARD LAKE INTERCHANGE	OAKLAND	LANDSCAPING	275,000	0.8
MHC	I696 TO 12 MILE RD	OAKLAND	LANDSCAPING	385,000	0.5
M55	CO RD 305 EAST TO OWNS DR	ROSCOMMON	BITUMINOUS BIKE PATH	172,000	3.3
I94	@ M39 INTERCHANGE	WAYNE	LANDSCAPING STAGE 3	550,000	1.0
TOTALS FOR WORK TYPE:			ROADSIDE FACILITIES	\$ 1,564,000	5.6

EXPAND

NEW ROUTES

ROUTE	LOCATION	COUNTY	WORK TYPE	TOTAL COST	LENGTH
MHC	I696 TO 12 MILE RD	OAKLAND	6 LANES & RELOCATE	\$ 19,350,000	0.5
MHC	I696 TO 12 MILE RD	OAKLAND	INTERCHANGE LIGHTING	1,760,000	0.0
MHC	12 MILE RD NORTH	OAKLAND	LIGHTING	460,000	0.6
MHC	12 MILE RD NORTH	OAKLAND	NEW 6 LANE FACILITY	13,317,000	0.6
I696	@ WOODWARD AVE	OAKLAND	PEDESTRIAN STRUCTURE	330,000	0.0
I94	UNDER ELLSWORTH RD	WASHTENAW	NEW STRUCTURE	1,320,000	0.0
TOTALS FOR WORK TYPE:			NEW ROUTES	\$ 36,537,000	1.7

MHC = Haggerly Connector

RELOCATION

ROUTE	LOCATION	COUNTY	WORK TYPE	TOTAL COST	LENGTH
US31REL	SNOW RD TO EXISTING US31	BERRIEN	CONCRETE PAVING	\$ 5,060,000	2.5
US31REL	WALTON RD TO MATTHEW RD	BERRIEN	CONCRETE PAVING	3,638,000	2.3
US31REL	MATTHEW RD TO LAKE CHAPIN RD	BERRIEN	CONCRETE PAVING	4,953,000	3.2
M99/CAP	CAPITOL LOOP/LENAWEE TO IONIA	INGHAM	RECONSTRUCT TO 2@24/2@36 DIV	2,475,000	0.7
US31REL	SCOTTVILLE WCL TO HANSON RD	MASON	NEW CONSTRUCTION	937,000	1.7
I75SB	@ N PERIMETER RD	OAKLAND	ENTRANCE RAMP	1,840,000	0.0
TOTALS FOR WORK TYPE:			RELOCATION	\$ 18,903,000	10.4

ROADSIDE FACILITIES

ROUTE	LOCATION	COUNTY	WORK TYPE	TOTAL COST	LENGTH
I69EB	@ REST AREA NEAR POTTERVILLE	EATON	REST AREA BUILDING	\$ 885,000	0.0
I75NB	CLIO REST AREA N OF DODGE RD	GENESEE	CONSTRUCT RAMP	1,700,000	0.0
I696	E OF HALSTEAD	OAKLAND	EARTH NOISE BERM	52,000	0.1
I75	S OF S BLVD TO S OF GTW RR	OAKLAND	NOISE BARRIER	1,408,000	0.6
I696	WEST OF INKSTER RD	OAKLAND	EARTH NOISE BERM	572,000	0.5
I696	W OF ORCHARD LAKE RD	OAKLAND	NOISE WALL	462,000	0.4
I75	@ WEIGH STATION, BRIDGEPORT	SAGINAW	CONVERT SCALE	287,000	0.0
I69WB	REST AREA E OF WOODBURY	SHIAWASSEE	BUILDING & SEWER	605,000	0.0
I94WB	OZGA RD TO SHOOK RD	WAYNE	NOISE BARRIER	616,000	0.4
I94WB	OZGA RD TO SHOOK RD	WAYNE	LANDSCAPE BARRIER	23,000	0.4
I75	@ AMBASSADOR BRIDGE REST AREA	WAYNE	REST AREA & INFO CENTER	2,953,000	0.0
TOTALS FOR WORK TYPE:			ROADSIDE FACILITIES	\$ 9,563,000	2.4

APPENDIX B
AVIATION PROJECTS

**BUREAU OF AERONAUTICS
1991 CAPITAL OUTLAY PROGRAM
PRIORITY A PROJECTS**

<u>LOCATION/AIRPORT</u>	<u>PROJECT ITEM DESCRIPTION</u>	<u>TOTAL COST</u>
<u>CATEGORY 1 - SPECIAL PROGRAMS/SAFETY</u>		
CADILLAC WEXFORD COUNTY	PERIMETER FENCING	\$ 267,000
CHARLEVOIX CHARLEVOIX MUNICIPAL	ACCESS ROAD	\$ 78,000
	AIRPORT BEACON	17,000
	LAND-EASEMENT	250,000
ESCANABA DELTA COUNTY	RWY OBSTRUCTION REMOVAL	\$ 40,000
	LAND FOR EXISTING AIRPORT	100,000
	DISTANCE REMAINING SIGNS	144,444
	PRIMARY APPROACH CONSTR	50,000
EVART EVART MUNICIPAL	LAND FOR EXISTING AIRPORT	\$ 100,000
GROSSE ILE GROSSE ILE MUNI	LAND FOR EXISTING AIRPORT	\$ 341,000
	OBSTRUCTION REMOVAL	35,400
HANCOCK HOUGHTON COUNTY MEMORIAL	RUNWAY SAFETY OVERRUN	\$ 100,000
IRON MOUNTAIN/KINGSFORD FORD FIELD	DISTANCE REMAINING SIGNS	\$ 65,000
JACKSON REYNOLDS FIELD	LAND FOR EXISTING AIRPORT	\$ 277,778
KALAMAZOO KALAMAZOO COUNTY AIRPORT	LAND FOR EXISTING AIRPORT	\$ 200,000
LANSING CAPITAL CITY	OBSTRUCTION REMOVAL	\$ 168,176
	CLEARING	110,085
	DISTANCE REMAINING SIGNS	71,744
	UTILITY RELOCATION	29,402
	AIRPORT BEACON	30,581
MARQUETTE MARQUETTE COUNTY	UTILITY RELOCATION	\$ 240,000
MUSKEGON MUSKEGON COUNTY	LAND-ACQUISITION	\$ 250,000
	DISTANCE REMAINING SIGNS	79,899
	LAND FOR EXISTING AIRPORT	344,217
	UTILITY RELOCATION	15,488

CATEGORY TOTAL \$ 3,405,214

<u>LOCATION/AIRPORT</u>	<u>PROJECT ITEM DESCRIPTION</u>	<u>TOTAL COST</u>
<u>CATEGORY 2 - RECONSTRUCTION</u>		
CADILLAC WEXFORD COUNTY	RUNWAY LIGHTING TAXIWAY PAVING RUNWAY REHABILITATION	\$ 104,770 100,000 868,820
CHARLEVOIX CHARLEVOIX MUNICIPAL	RUNWAY OVERLAY APRON REHABILITATION NEW TAXIWAY RUNWAY LIGHTING NEW TAXIWAY	\$ 250,000 144,000 245,000 50,000 35,000
DETROIT WILLOW RUN	RUNWAY REHABILITATION	\$ 5,000,000
EVART EVART MUNICIPAL	CONSTRUCT NEW APRON NEW TAXIWAY PRIMARY RWY CONSTRUCTION	\$ 139,400 75,100 1,513,000
FLINT BISHOP INTERNATIONAL	RECONSTRUCT APRON	\$ 1,375,000
IRON MOUNTAIN/KINGSFORD FORD FIELD	APRON REHABILITATION	\$ 262,000
MUSKEGON MUSKEGON COUNTY	REHABILITATE ACCESS RD	\$ 60,000
SAGINAW TRI CITY INTERTNATIONAL	RECONSTRUCT APRON	\$ 782,400
TRAVERSE CITY CHERRY CAPITAL	TAXIWAY REHABILITATION APRON REHABILITATION TWY STRENGTHENING OVERLAY	\$ 100,000 495,000 <u>205,000</u>
CATEGORY TOTAL		\$ 11,804,490

CATEGORY 3 - STANDARDS

GREENVILLE GREENVILLE MUNICIPAL	EXTEND TAXIWAY LENGTHEN EXISTING RUNWAY	\$ 200,000 100,000
JACKSON REYNOLDS FIELD	NEW TAXIWAY	\$ <u>380,000</u>
CATEGORY TOTAL		\$ 680,000

<u>LOCATION/AIRPORT</u>	<u>PROJECT ITEM DESCRIPTION</u>	<u>TOTAL COST</u>
<u>CATEGORY 4 - UPGRADING AIRPORT ROLE</u>		
CADILLAC WEXFORD COUNTY	LENGTHEN EXISTING RUNWAY	\$ 431,310
HOWELL LIVINGSTON COUNTY	LAND-ACQUISITION	<u>\$ 1,062,500</u>
CATEGORY TOTAL		\$ 1,493,810
<u>CATEGORY 5 - CAPACITY DEVELOPMENT</u>		
CHARLEVOIX CHARLEVOIX MUNICIPAL	APRON EXPANSION	\$ 40,000
DETROIT DETROIT METRO	LENGTHEN EXISTING RUNWAY	\$ 8,000,000
DETROIT WILLOW RUN	LENGTHEN EXISTING RUNWAY	\$ 4,000,000
GRAND RAPIDS KENT COUNTY INTL	NEW RUNWAY (PHASE I)	\$ 5,000,000
PELLSTON EMMET COUNTY	APRON EXPANSION	<u>\$ 300,000</u>
CATEGORY TOTAL		\$ 17,340,000
<u>CATEGORY 8 - EQUIPMENT AND BUILDINGS</u>		
HANCOCK HOUGHTON COUNTY MEMORIAL	SRE TRUCK PLOW/BLADE	\$ 150,000
KALAMAZOO KALAMAZOO COUNTY	SRE FRONT END LOADER SRE TRUCK PLOW/BLADE	\$ 125,000 275,000
PORT HURON ST. CLAIR COUNTY INTL	SRE BUILDING	\$ 300,000
TRAVERSE CITY	SRE TRUCK PLOW/BLADE	<u>\$ 200,000</u>
SRE = Snow Removal Equipment		
CATEGORY TOTAL		\$ 1,050,000
GRAND TOTAL		\$ 35,773,514

**BUREAU OF AERONAUTICS
1991 CAPITAL OUTLAY PROGRAM
PRIORITY B PROJECTS**

<u>LOCATION/AIRPORT</u>	<u>PROJECT ITEM DESCRIPTION</u>	<u>TOTAL COST</u>
 <u>CATEGORY 1 - SPECIAL PROGRAMS/SAFETY</u>		
MANISTEE	CLEARING	\$ 33,000
BLACKER FIELD	PERIMETER FENCING	<u>131,000</u>
	CATEGORY TOTAL	\$ 164,000
 <u>CATEGORY 2 - RECONSTRUCTION</u>		
GROSSE ILE	REHAB ENTRANCE ROAD	\$ 120,000
GROSSE ILE MUNICIPAL		
HASTINGS	RUNWAY REHABILITATION	\$ 190,000
HASTINGS MUNICIPAL	TAXIWAY PAVING	80,000
LUDINGTON	RUNWAY PFC	\$ 204,600
MASON COUNTY		
SAULT STE MARIE	RUNWAY REHABILITATION	<u>\$ 392,700</u>
CHIPPEWA COUNTY INTL		
	CATEGORY TOTAL	\$ 987,300
 <u>CATEGORY 5 - CAPACITY DEVELOPMENT</u>		
HASTINGS	WIDEN EXISTING RUNWAY	\$ 110,000
HASTINGS MUNICIPAL		
MARQUETTE	LENGTHEN EXISTING RUNWAY	\$ 1,000,000
MARQUETTE COUNTY		
MT PLEASANT	EXTEND TAXIWAY	\$ 400,00
MT PLEASANT MUNICIPAL	APRON EXPANSION	<u>200,000</u>
	CATEGORY TOTAL	\$1,710,000

<u>LOCATION/AIRPORT</u>	<u>PROJECT ITEM DESCRIPTION</u>	<u>TOTAL COST</u>
<u>CATEGORY 7 - NEW AIRPORTS-COMMUNITY</u>		
CASEVILLE	LAND FOR NEW AIRPORT	\$ 450,000
CASEVILLE TOWNSHIP	NEW TAXIWAY	30,000
	RWY ELECTRIC LANDING AIDS	10,000
	ACCESS ROAD	97,000
	MED. INTENSITY RUNWAY LTG	194,000
	PRIMARY RWY CONSTRUCTION	697,300
	RUNWAY DRAINAGE	120,000
	CONSTRUCT NEW APRON	<u>110,003</u>
	CATEGORY TOTAL	\$1,708,303
<u>CATEGORY 8 - EQUIPMENT AND BUILDINGS</u>		
IRON MOUNTAIN/KINGSFORD FORD	SRE SWEEPER	\$ 39,000
IRONWOOD GOGEBIC COUNTY	SRE SWEEPER	\$ 143,800
	TERMINAL BUILDING	<u>800,000</u>
	CATEGORY TOTAL	\$ 982,800
	GRAND TOTAL	\$5,552,403

SRE = Snow Removal Equipment