

Chapter 11

Financial Analysis

The federal transportation bill requires that MPO Long Range Plans be financially constrained documents. Prior legislation set the regulation that a planning process be realistic in terms of the financial resources available to carry out the plan. The regulations regarding establishing a financial plan are as follows:

- (i) For purposes of transportation systems operations and maintenance, the financial plan shall contain system-level estimates of costs and revenue sources that are reasonably expected to be available to adequately operate and maintain Federal-aid highways (as defined by 23 U.S.C. 101(a)(5)) and public transportation (as defined by title 49 U.S.C. Chapter 53).
- (ii) For the purpose of developing the metropolitan transportation plan, the MPO, public transportation operator(s), and State shall cooperatively develop estimates of funds that will be available to support metropolitan transportation plan implementation, as required under Sec. 450.314(a). All necessary financial resources from public and private sources that are reasonably expected to be made available to carry out the transportation plan shall be identified.
- (iii) The financial plan shall include recommendations on any additional financing strategies to fund projects and programs included in the metropolitan transportation plan. In the case of new funding sources, strategies for ensuring their availability shall be identified.
- (iv) In developing the financial plan, the MPO shall take into account all projects and strategies proposed for funding under title 23 U.S.C., title 49 U.S.C. Chapter 53 or with other Federal funds; State assistance; local sources; and private participation. Starting December 11, 2007, revenue and cost estimates that support the metropolitan transportation plan must use an inflation rate(s) to reflect “year of expenditure dollars,” based on reasonable financial principles and information, developed cooperatively by the MPO, State(s), and public transportation operator(s).
- (v) For the outer years of the metropolitan transportation plan (i.e., beyond the first 10 years), the financial plan may reflect aggregate cost ranges/cost bands, as long as the future funding source(s) is reasonably expected to be available to support the projected cost ranges/cost bands.
- (vi) For nonattainment and maintenance areas, the financial plan shall address the specific financial strategies required to ensure the implementation of TCMs in the applicable SIP.
- (vii) For illustrative purposes, the financial plan may (but is not required to) include additional projects that would be included in the adopted transportation plan if additional resources beyond those identified in the financial plan were to become available.
- (viii) In cases that the FHWA and the FTA find a metropolitan transportation plan to be fiscally constrained and a revenue source is subsequently removed or substantially reduced (i.e., by legislative or administrative actions), the FHWA and the FTA will not withdraw the original determination of fiscal constraint; however, in such cases, the FHWA and the FTA will not act on an updated or amended metropolitan transportation plan that does not reflect the changed revenue situation.

The development of the financial plan chapter is based on the outlined requirements from the regulations. The revenue and expenditure projections are presented in cost adjusted/inflated dollars, termed “year-of-expenditure” dollars. The 2045 Transportation Plan was also developed using this process. Past practice, historic data, and already

committee funds are the major factors considered in establishing future funding estimates.

Since the majority of funding for transportation improvements comes from federal and state dollars, actions at both these levels will impact the actual future funding available for projects at the local level. The future of these funding sources for the life of the 2045 Plan cannot be predicted with certainty. Future estimates are based on a continuation of the historic experience with these sources.

The FAST Act requires that project selection and investment be influenced by performance-based planning. Guidance from FHWA and MDOT is still in development as to how that should happen, especially at the local level, as of the adoption of this plan. The Jackson MPO's intentions are to adhere to federal and state recommendations, and that the direction of investments will influence project selection over time.

History of Transportation Financing

The development and maintenance of the transportation system has been, and still is, primarily financed by user fees. Local public and private funding has become an increasing contributor to transportation improvements in recent years. At the state level, user fees include a per gallon tax on gasoline and diesel fuel and a per vehicle registration fee based on vehicle value. The state gas tax is currently \$0.263 per gallon. As vehicles become more fuel efficient, and alternative fuel use increases, the revenue generated from this tax diminishes. Gasoline fuel is taxed at \$0.184 and diesel fuels are taxed \$0.244 per gallon at the federal level. Some revenue for transportation at the state level is also generated from the sales tax on vehicle related consumer purchases.

Sources of Transportation Funding

Collection and distribution of gasoline and diesel fuel taxes in Michigan is regulated under State Act 51 of 1951 (commonly referred to as "Act 51"). Michigan's fuel tax is collected at the refinery and deposited into the Michigan Transportation Fund (MTF). Federal taxes are placed into the Federal Highway Trust Fund, with the exception of one cent of the tax, which is dedicated to the clean-up of underground fuel storage tanks. Most of the tax revenues, at the federal and state levels, are earmarked to fund highway, mass transit, safety, and non-motorized improvements. The state's MTF dollars are distributed to MDOT, the county road commissions, the cities and villages, and the Comprehensive Transportation Fund (CTF). The CTF was established to fund public transit improvements, and has received funding from the state's general fund in the past.

Most states have vehicle registration fees that are earmarked for transportation improvements as well. In Michigan, the registration fees for automobiles and trucks are also deposited in the MTF. There is no federal passenger vehicle registration fee. County and city MTF allocations have generally accounted for over half of locally available transportation revenues. Cities and villages may provide additional funding for transportation improvements. Typical sources for such funds include a community's

general fund, property tax millage, general obligation bonds, contributions from other units of government, tax increment financing, and special assessments. Revenue can also result from accumulated interest on MTF funding that has been distributed to the local road agencies.

County road commissions and county departments of transportation receive funding from their member townships for improvements to non-primary roads as road commissions are not allowed to pay for more than 50% of such improvements. Some counties generate revenue by entering into maintenance agreements with MDOT to complete work on state trunkline facilities. Revenue is also sometimes generated from developers who will pay for the construction of access drives, roads, or other necessary improvements serving new developments.

At the federal level, the FAST Act combines the many programs available to fund transportation improvements into more cohesive pots. The Interstate Maintenance, National Highway System (NHS) and the Highway Bridge program have been combined into the National Highway Performance program. The state uses this funding source for high level facilities like interstate highways. The Surface Transportation Program (STP) still provides funds to the state and to local urban, small city, and rural areas for transportation improvements. The enhancement (which includes beautification, historic preservation, and non-motorized), has been combined with the Recreational Trails and Safe Routes to Schools program under the name "Transportation Alternatives". Other funding programs include Congestion Mitigation Air Quality (CMAQ) and Rail-Highway Crossings.

The Federal Transit Administration has separate programs to provide capital and operating funding for public transportation as well as other specific programs such as the New Starts/Small Starts programs.

Potential Sources of Revenue for Plan Development

Federal Funding

National Highway Performance
Surface Transportation Program
Transportation Alternatives Program
Highway Safety Improvement Program
Rail-Highway Crossing Program
Federal Transit Administration
New Starts/Small Starts Program
Other Federal

State Funding

Motor Vehicle Tax (Act 51) Distribution
Comprehensive Transportation Fund Distribution
Transportation Economic Development Funds
Other State

Local Funding

General Fund Contributions (Cities)
Township Contributions
Street Improvement Assessments
Road Improvement Bonds
Tax Increment Financing
Special Assessment Districts
Dedicated Millage
Service Contracts
Fare Box Revenues
Private Industry Contributions
In-Kind Contributions
Foundations
Other Local

Developing Revenue Forecasts

Local revenue projects were made utilizing the experience of the two Act 51 Agencies, City of Jackson and Jackson County Department of Transportation, and the local road agencies for the period 2015 to 2017 as the base. The Act 51 reports submitted to the state by the agencies provided revenue and expenditures data for making future projections. The Act 51 reports break down revenues and expenditures between the major/primary road system and the minor/local road system. The Jackson MPO deals with funding for projects on the federal-aid eligible system, which is almost completely the same system as the major/primary road system. While the local street/secondary road system revenues and expenditures are reviewed, the figures are not used in addressing either costs or revenues for this financial assessment.

TABLE 11-1
Average per Year Major Street/Primary Road Revenues
For the Time Period 2015 – 2017

REVENUES	City of Jackson	Jackson County Department of Transportation	TOTAL
Michigan Transportation Fund	\$ 2,352,989	\$ 24,848,971	\$ 27,201,960
Transportation Economic Development Fund	\$ 0	\$ 668,126	\$ 668,126
Federal Funding	\$ 2,625,831	\$ 4,455,229	\$ 7,081,060
Local Funding	\$ 699,657	\$ 0	\$ 699,657
Metro Act	\$ 122,127	\$ 0	\$ 122,127
Miscellaneous	\$ 979,235	\$ 2,944,601	\$ 3,923,836
TOTAL	\$ 6,779,839	\$ 32,916,927	\$ 39,696,766

TABLE 11-1a
Average per Year Local Street/Secondary Road Revenues
For the Time Period 2015 - 2017

REVENUES	City of Jackson	Jackson County Department of Transportation	TOTAL
Michigan Transportation Fund	\$ 651,095	\$ 11,755,077	\$ 12,406,172
Transportation Economic Development Fund	\$ 0	\$ 269,471	\$ 269,471
Federal Funding	\$ 0	\$ 0	\$ 0
Local Funding	\$ 579,823	\$ 5,405,225	\$ 5,985,048
Metro Act	\$ 0	\$ 0	\$ 0
Miscellaneous	\$ 663,699	\$ 25,426	\$ 689,125
TOTAL	\$ 1,894,618	\$ 17,455,199	\$ 19,349,817

The estimates of future funding for local transportation needs on the major street/primary road system are based on the presumption that the current funding sources will see annual increases of 3.7% through 2025 and 2.3% thereafter. An increase of 2.0% per year through FY 2025 and 2.4% thereafter is figured as the potential increase in federal funding per MDOT.

Therefore, based on their Act 51 reports, it is estimated that the local agencies, as a group, will have revenues available for transportation investments for major streets/primary roads averaging the following from each of these categories (based on Table 11-1):

MI Transportation Fund (MTF) Starting with a combined average of \$27.2 million in 2017 and increasing as stated in the paragraph above, a total of \$1.2 billion will be available for the overall time period of 2017-2045.

State Economic Development Categories Jackson County will expect to receive state TEDF Category D funds as long as the Legislature continues the appropriation. To be fiscally conservative, the annual amount appropriated for Jackson County of \$161,079 will be used from 2017-2045. This amount will yield a total of \$3,965,131.

Local Funding Starting with a combined average of \$669,657 in 2017, carrying forward at the same level for 2017 to 2045 (due to restricted local budgets) this category will provide a total of \$31.2 million. The Jackson County Department of Transportation is unsure how the townships will participate in local funding. They cannot project whether or not they will have an infusion of local dollars to aid their effort.

Miscellaneous Funding Sources This category includes special assessments and other traffic and insurance refunds. Starting with a combined average of \$3.9 million in 2017, carrying forward with a 2% per year increase until 2045, this category will total \$1.7 million over the life of the Plan.

It should be noted that revenues and expenditures for local streets/secondary roads are not included in the calculations shown in the remainder of this chapter. The calculation of the cumulative total revenues by the above categories over the life of the 2045 Plan is shown in Table 11-2.

TABLE 11-2 – Cumulative Revenue Estimates for the Period of 2017-2045

STATE and LOCAL Sources used by LOCAL AGENCIES (Source: Act 51)

YEAR	MTF	TEDF	LOCAL	MISCELLANEOUS
2017	\$27,201,960	\$ 161,079	\$699,657	\$39,238
2018	\$28,208,433	\$ 135,859	\$699,657	\$40,690
2019	\$29,252,145	\$ 135,859	\$699,657	\$42,196
2020	\$30,334,474	\$ 135,859	\$699,657	\$43,757
2021	\$31,456,849	\$ 135,859	\$699,657	\$45,376
2022	\$32,620,753	\$ 135,859	\$699,657	\$47,055
2023	\$33,827,721	\$ 135,859	\$699,657	\$48,796
2024	\$35,079,346	\$ 135,859	\$699,657	\$50,601
2025	\$36,377,282	\$ 135,859	\$699,657	\$52,474
2026	\$37,213,960	\$ 135,859	\$699,657	\$53,680
2027	\$38,069,881	\$ 135,859	\$699,657	\$54,915
2028	\$38,945,488	\$ 135,859	\$699,657	\$56,178
2029	\$39,841,234	\$ 135,859	\$699,657	\$57,470
2030	\$40,757,583	\$ 135,859	\$699,657	\$58,792
2031	\$41,695,007	\$ 135,859	\$699,657	\$60,144
2032	\$42,653,992	\$ 135,859	\$699,657	\$61,528
2033	\$43,635,034	\$ 135,859	\$699,657	\$62,943
2034	\$44,638,640	\$ 135,859	\$699,657	\$64,390
2035	\$45,665,328	\$ 135,859	\$699,657	\$65,871
2036	\$46,715,631	\$ 135,859	\$699,657	\$67,386
2037	\$47,790,091	\$ 135,859	\$699,657	\$68,936
2038	\$48,889,263	\$ 135,859	\$699,657	\$70,522
2039	\$50,013,716	\$ 135,859	\$699,657	\$72,144
2040	\$51,164,031	\$ 135,859	\$699,657	\$73,803
2041	\$52,340,804	\$ 135,859	\$699,657	\$75,501
2042	\$53,544,642	\$ 135,859	\$699,657	\$77,237
2043	\$54,776,169	\$ 135,859	\$699,657	\$79,014
2044	\$56,036,021	\$ 135,859	\$699,657	\$80,831
2045	\$57,324,849	\$ 135,859	\$699,657	\$82,690
TOTAL	\$1,216,070,326	\$ 3,965,131	\$ 20,290,053	\$1,754,161
GRAND TOTAL				\$1,238,114,539

Federal Revenues for the Local System (not including transit)

In addition to the categories reflected on the Act 51 report, the Jackson MPO oversees the expenditure of federal funds that are represented by projects in the Transportation Plan and the TIP (these projects are generally administered by MDOT, so the federal portion of the funding does not show up on the local agencies' Act 51 reports):

Surface Transportation Program (STP) The STP Urban funding took a drastic decline with the passage of MAP-21. Based on the FY 2016 amount of \$1.2 million, federal funding is projected to increase by 3.7% through FY 2025, and then decrease to 2.3% to FY 2044. This will provide **\$59.5 million** in STP Urban funds over the life of the plan.

Surface Transportation Program (STP) Rural The Jackson Metropolitan Area Boundary expands out to the county limits, so the rural funding is also taken into account when determining financial constraint. Based on the FY 2016 amount of \$646,546, and increasing by the same percentages as the STP Urban, approximately **\$30.6 million** will be available in STP Rural funds over the life of the plan.

Surface Transportation Program (STP) Flex The Jackson Metropolitan Area Boundary also receives a flexible amount that is also taken into account when determining financial constraint. Based on the FY 2016 amount of \$235,326, and increasing by the same percentages as the STP Urban, approximately **\$11.1 million** will be available in STP Rural funds over the life of the plan.

Other Federal - Revenue estimates for several smaller federal funding categories are being estimated together for the purposes of the 2045 plan. The 2016 general program account figures for local rail crossing, local bridge, local safety, and local transportation alternatives have been used to calculate this total, based on the same percentages as the STP Urban and Rural programs, per year over the life of the plan, for a total of **\$524.3 million**.

The calculation of these categories of funds over the life of the 2045 Long Range Transportation Plan is shown in Table 11-3 on the following page.

**TABLE 11-3 Cumulative Revenue Estimates for the Period of 2016-2045
FEDERAL REVENUE Sources used by LOCAL AGENCIES (\$000's)**

YEAR	STP URBAN	STP RURAL	STP FLEX	OTHER FEDERAL
2016	\$1,256	\$ 646,546	\$235,326	\$12,514
2017	\$1,303	\$ 670,468	\$244,033	\$12,764
2018	\$1,351	\$ 695,276	\$253,062	\$13,019
2019	\$1,401	\$ 721,001	\$262,426	\$13,279
2020	\$1,453	\$ 747,678	\$272,135	\$13,545
2021	\$1,507	\$ 775,342	\$282,204	\$13,816
2022	\$1,563	\$ 804,029	\$292,646	\$14,092
2023	\$1,620	\$ 833,779	\$303,474	\$14,374
2024	\$1,680	\$ 864,628	\$314,702	\$14,662
2025	\$1,743	\$ 896,620	\$326,346	\$14,955
2026	\$1,783	\$ 917,242	\$333,852	\$15,314
2027	\$1,824	\$ 938,338	\$341,531	\$15,681
2028	\$1,866	\$ 959,920	\$349,386	\$16,058
2029	\$1,909	\$ 981,998	\$357,422	\$16,443
2030	\$1,953	\$ 1,004	\$365,643	\$16,838
2031	\$1,997	\$ 1,027	\$374,052	\$17,242
2032	\$2,043	\$ 1,051	\$382,656	\$17,656
2033	\$2,090	\$ 1,075	\$391,457	\$18,079
2034	\$2,139	\$ 1,100	\$400,460	\$18,513
2035	\$2,188	\$ 1,125	\$409,671	\$18,958
2036	\$2,238	\$ 1,151	\$419,093	\$19,413
2037	\$2,290	\$ 1,177	\$428,732	\$19,879
2038	\$2,342	\$ 1,205	\$438,593	\$20,356
2039	\$2,396	\$ 1,232	\$448,681	\$20,844
2040	\$2,451	\$ 1,261	\$459,001	\$21,345
2041	\$2,508	\$ 1,290	\$469,558	\$21,857
2042	\$2,565	\$ 1,319	\$480,357	\$22,381
2043	\$2,624	\$ 1,350	\$491,406	\$22,919
2044	\$2,685	\$ 1,381	\$502,708	\$23,469
2045	\$2,746	\$ 1,412	\$514,270	\$24,032
TOTAL	\$59,529	\$30,619	\$11,144,884	\$524,309

GRAND TOTAL				\$625,603
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Federal and State Revenues (for state system)

MDOT has provided revenue estimates for its program for the time frame of the 2045 Plan. The estimates are divided by the major programming categories used by MDOT: preserve vs. increase capacity/new roads. A breakdown by multi-year groupings has been provided by MDOT for the entire Plan period.

Revenues that go toward operations and maintenance are not included in the figures in Table 11-4. The costs for this type of work by MDOT are included in the discussion regarding operations and maintenance, which is dealt with following the discussion of transit revenues.

MDOT Planning provided the revenue forecasts in “future dollars” as required by the MAP-21 regulations.

**TABLE 11-4 – Revenues Available for State Facilities
(\$ in 000's)**

MDOT	Preserve	Capacity Roads	Improve/New
2016-2020	\$ 88,825	\$	120,638
2021-2025	\$ 114,937	\$	75,399
2026-2030	\$ 131,957	\$	0
2031-2035	\$ 147,208	\$	0
2036-2040	\$ 181,522	\$	0
2041-2045	\$ 216,312	\$	0
TOTAL	\$ 880,762	\$	196,037

Transit Revenues

A variety of revenue sources are available to support public transit services into the future. The federal government, through the Federal Transit Administration (FTA), makes funds available for both operating and capital transit expenditures with an annual allocation by formula to the local transit operator. The state also makes available funds to support the operating and capital portions of the transit budget. The federal government provides discretionary funding on a sporadic basis for the purchase of major capital items, such as large fixed-route buses.

Federal funding from sources under the Federal Highway Administration (FHWA) can be “flexed” for transit use, for example STP-Urban funding. The local government (the City of Jackson) provides dollars from its general fund to support some of the operating costs of the transit. Revenues are garnered from fares paid by users of the transit service and a modest amount of revenue is derived from sources like advertising.

Table 11-5 lists the estimated revenues for transit over the life of the 2045 Transportation Plan. The federal and state revenues have been provided by MDOT, which provided revenue figures by multi-year groupings, the same as for the road categories. Transit funding from federal and state allocated sources is estimated to be approximately \$167,567 million over the life of the Plan.

The “local, farebox, & other” category is modestly increased at 2% per year over the life of the Plan. Farebox receipts have not been increasing much in recent years.

Table 11-5 – Revenues Available for Transit Services, Vehicles and Facilities
(\$ in 000's)

Year	Federal & State	Local, Farebox, & Other
2014-2018	\$ 15,344	\$ 8,865
2019-2023	\$ 15,433	\$ 9,738
2024-2028	\$ 15,399	\$ 10,749
2029-2033	\$ 15,401	\$ 11,870
2034-2038	\$ 15,439	\$ 13,107
2039-2045	\$ 21,749	\$ 14,473
TOTAL	\$ 98,765	\$ 68,802
GRAND TOTAL	\$	167,567

OPERATIONS & MAINTENANCE

The continued effective operation and maintenance of the existing transportation system is a priority and goal of the Jackson MPO. Therefore, estimated costs for these aspects of the transportation system over the life of the plan are taken into consideration and are applied against the total anticipated revenues before any improvements to the system are considered.

The Act 51 reporting data from the local agencies included detail on expenditures as well as revenues. Based on an average of the expenditures from 2015-2017 for the two local road agencies, the total cost to operate and maintain the existing major street/primary road system (non-heavy maintenance, routine maintenance, traffic services, winter maintenance, and administrative services) in the Jackson area was approximately **\$8.3 million** per year.

For the life of the Plan, this figure has been expanded by 1.03% in 2017, 1.01% for FY 2018 through 2020, and 1.02% through FY 2045 per year as provided by MDOT based on historic percentages and future projections.

Based on these percentage increases, the total cost for operations and maintenance of the major street/primary road system in the Jackson area by the local agencies over the 2015 to 2045 time period of the is expected to be approximately **\$303 million**.

MDOT has provided figures regarding its anticipated costs for operations and maintenance (O+M) of the state system within the Jackson area over the time period of the Plan. The costs include routine maintenance performed by the Transportation Service Center (TSC) staff, low level CPM repair work, and maintenance contract costs with local road agencies (including signal maintenance).

Based on an average cost per year of 8.5 million in 2016, a total cost over the life of the 2045 plan for state operations and maintenance is estimated at **\$344,802 million**. As with the local estimate, this category was expanded by the same percentages.

SUMMARY

Summaries of estimated available revenues and estimated expenditures over the life of the 2045 Plan are shown in the following Tables 11-6 and 11-7:

Table 11-6 – Summary of Available Revenues for the JACTS 2045 Long Range Transportation Plan

Projected Capital Revenues	Total \$
Federal Transportation Funds for Construction of Local Roads	\$ 625,603,000
Federal and State Funding for State Controlled Roadways	\$ 1,421,601,000
Federal/State/Local Transit Funding (Operations and Capital)	\$ 167,567,000
State and Local Funding for Construction and O/M of Local Roads	\$ 1,238,114,539
TOTAL	\$ 3,452,885,539

Table 11-7
Summary of 2045 Long Range Transportation Plan
Operations/Maintenance & Capital Expenditures 2015-2045

Operations/Maintenance (O/M) Expenditures for Local & State Roads	Total \$'s
Estimated Expenditures for O/M on Local Roads	\$ 303,312,995
Estimated Expenditures for O/M on State Roads	\$ 344,802
PLANNED CAPITAL EXPENDITURES	\$ 303,657,797
Local Road Projects	
• Capacity Improvement Projects (0)	\$ 0
• Preservation	\$ 16,685,566
• Safety	\$ 0
• Non-Motorized	\$ 442,023
Total	\$ 18,028,467
Transit Projects	
• Operating Expenses	\$ 285,002,840
• Vehicle Replacement (83 Vehicles)	\$ 15,589,603
• Vehicle Addition	\$ 5,624,000
• Other Capital	\$ 1,062,100
• Security Improvements	\$ 703,862
Total	\$ 307,982,405
State Projects	
• Capacity Improvement (5 Projects)	\$ 196,037,000
• Preservation	\$ 880,762,884
Total	\$ 1,076,799,884
GRAND TOTAL EXPENDITURES	\$ 1,706,468,553

DEMONSTRATION OF FINANCIAL CONSTRAINT

The total expenditures identified in the JACTS 2045 Long Range Transportation Plan are within the total federal, state, and local revenues estimated for the Plan. As shown in Table 11-8 below, there is projected to be adequate revenue available for capital expenditures as well as for operations and maintenance expenditures for the transportation system. Therefore, the JACTS 2045 Long Range Transportation Plan is financially constrained.

Table 11-8

Demonstration of Financial Constraint for the 2045 Long Range Transportation Plan of the Jackson Area Comprehensive Transportation Study

Total federal, state, and local revenues estimated to be available for road related construction, transit capital/operating and road related operations and maintenance of the major street/primary road system and state roadway system within the Jackson MPO.	\$ 3,452,885,539
Expenditures for Operations/Maintenance of Local & State Roads	\$ 303,657,797
Expenditures for Local Road Improvement Projects	\$ 18,028,467
Expenditures for Transit Improvement Projects	\$ 307,982,405
Expenditures for State Improvement Projects	\$ 1,076,799,884
REMAINING BALANCE	\$ 1,746,416,986