



# APPENDIX D: FISCAL ANALYSIS METHODOLOGY



# FISCAL ANALYSIS METHODOLOGY

Appendix D provides supplemental information about the Des Moines Area Metropolitan Planning Organization's (Des Moines Area MPO) methodology and assumptions used to estimate project costs and to develop funding revenue projections.

## Cost Projections

This section is an overview of the Des Moines Area MPO's methodology and assumptions used to estimate project costs and revenue projections. These costs include project capital costs and operation and maintenance costs.

### Project Costs

The Des Moines Area MPO relied on local governments to estimate costs for their respective projects in 2014 dollars. Projects were submitted for the follow three time periods, 2015-2024, 2025-2034, and 2035-2050. Projects costs were determined using a year of expenditure (YOE) calculated on the midpoint of each of the time periods<sup>12</sup>. The Des Moines Area MPO used a four percent annual inflation rate recommended by the Federal Highway Administration (FHWA) to convert these costs into YOE dollars<sup>3</sup>. The Des Moines Area MPO assumed that some projects would be constructed or implemented prior to the HY 2024, 2034, and 2050, and used HY 2019, 2029 and 2039 as average YOE.

### Historical Street and Highway Expenditures

The Des Moines Area MPO used data from the Iowa DOT's Street Finance Reports to determine expenditures on MPO member government's street and highway system for FY 2008-2013. Maintenance costs include costs associated with maintaining the existing physical infrastructure (i.e., pavement, signals, and right-of-way). Operation costs include costs associated with snow removal, street lighting, equipment purchases, administration, and other related costs. Construction costs include engineering, right-of-way purchase, and the construction of bridges and streets. Debt service includes principal and interest payments made on municipal bonds. Figure D1 provides a summary of street and highway expenditures over the past six federal fiscal years.

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1 YOE refers to the year a project is completed. The Des Moines Area MPO assumed some projects would be completed prior to the HY and identified HY 2019, 2029, and HY 2039 as average YOE.

2 FY refers to the State Fiscal Year (July 1 through June 30).

3 U.S. Department of Transportation, Federal Highway Administration, Financial Planning and Fiscal Constraint for Transportation Plans and Programs Questions and Answers, April 15, 2009.

FIGURE D1: HISTORICAL STREET &amp; HIGHWAY EXPENDITURES

FEDERAL FISCAL YEAR	MAINTENANCE	OPERATIONS	CONSTRUCTION	DEBT SERVICE	TOTAL
2008	\$29,676,308	\$18,870,821	59,188,963	60,795,750	\$168,531,842
2009	\$27,039,735	\$14,613,676	77,941,705	81,461,389	\$201,056,505
2010	\$29,166,472	\$13,256,200	80,117,091	89,608,542	\$212,148,305
2011	\$27,192,080	\$12,815,786	78,324,928	95,174,456	\$213,507,250
2012	\$28,172,061	\$20,824,569	66,810,766	84,958,117	\$200,765,513
2013	\$33,490,648	\$13,206,117	66,608,096	73,533,803	\$186,838,664
Total	\$174,737,304	\$93,587,169	\$428,991,549	\$485,532,057	\$1,182,848,079
6-Year Average	\$29,122,884	\$15,597,862	\$71,498,592	\$80,922,010	\$197,141,347
Percent of Expenditures	15%	8%	36%	41%	100%

## Revenue Projections

The Des Moines Area MPO considered three revenue types when developing future funding estimates: federal, state, and local funds.

### Federal Funding

Federal funds allocated to states and local governments are derived from modal trust funds funded through user fees. The Highway Revenue Act of 1956 created the Highway Trust Fund (HTF) to provide a dependable source of funding for the Interstate System. The HTF is funded through user fees applied to fuel taxes, heavy vehicle use taxes, and taxes on purchases of trucks and truck tires. The HTF has two divisions; the highway account and the mass transit account. According to the Iowa DOT, Iowa contributed \$499.2 million to the highway account and \$65.8 million to the mass transit account in 2012. The HTF's highway account provides funds for a number of programs, ranging from construction and maintenance to safety. The HTF's mass transit account provides funds for the construction and operation of transit systems.

Federal funds that flow directly to the MPO include Surface Transportation Program (STP) and Transportation Alternative Program (TAP) funding. Figure D2 provides a summary of historic STP and TAP funding levels for the MPO.

The MPO used historic data going back to 1996 to determine the historic annual growth rate for STP and TAP funding over the 19 year period. The historic growth rate for STP and TAP funding was reviewed by the MPO Finance Subcommittee. Their recommendation was to use a conservative 5 percent annual growth rate to project federal funding for Mobilizing Tomorrow. This approach was based on the overall uncertainty concerning transportation funding at the federal level and congresses unwillingness to pass a gas tax increase to address the HTF shortfall. Staff used the 5 percent growth rate to determine an annual funding increase of \$191,000. The annual funding increase was added to each year to create a straight line projection of STP and TAP funding that is expected to be available through 2050. Figure D3 provides a summary for projected STP and TAP funding through 2050.

FIGURE D2: HISTORICAL STP &amp; TAP FUNDING

FEDERAL FISCAL YEAR	STP FUNDING	TAP FUNDING
1996	\$3,811,000	N/A
1997	\$3,614,000	N/A
1998	\$3,614,000	N/A
1999	\$4,851,000	\$442,000
2000	\$5,690,000	\$466,000
2001	\$6,088,000	\$508,000
2002	\$6,222,000	\$525,000
2003	\$6,233,000	\$518,000
2004	\$7,150,000	\$585,000
2005	\$7,960,000	\$672,000
2006	\$5,860,000	\$541,000
2007	\$5,812,000	\$549,000
2008	\$7,112,000	\$580,000
2009	\$8,084,000	\$622,000
2010	\$9,013,000	\$669,000
2011	\$10,275,000	\$708,000
2012	\$10,581,000	\$799,000
2013	\$10,102,000	\$768,000
2014	\$11,743,000	\$1,177,000
Percent Change 1999-2014	208%	166%
Average Annual Percent Change	13%	10%

FIGURE D3: PROJECTED STP &amp; TAP FUNDING THROUGH HY 2050

FUNDING TYPE	2015-2024	2025-2034	2035-2050	TOTAL
STP	\$121,731,248	\$139,685,000	\$263,224,000	\$524,640,248
TAP	\$12,109,760	\$14,180,000	\$27,264,000	\$53,553,760
Total	\$133,841,008	\$153,865,000	\$290,488,000	\$578,194,008

## State Funding

Funds derived from State-assessed fees on fuel, motor vehicle sales, vehicle registrations, and other transportation-related transactions support numerous funding programs. The following sections describe State of Iowa funding programs available for streets and highways, bicycle and pedestrian facilities, and public transportation systems.

The State of Iowa's primary revenue source is the Road Use Tax Fund (RUTF). The 53rd Iowa General Assembly created the RUTF in 1949 to provide a dependable source of funding for the State of Iowa's primary, secondary, and municipal street and highway system. Similar to the HTF, the RUTF is funded through user fees. These user fees include fuel taxes, motor vehicle registration fees, motor vehicle use tax, driver's license fees, and other miscellaneous sources.

Table D4 shows the total historic RUTF revenues for MPO member governments for 2008 to 2013. The annual growth rate over the six years of available data was 3 percent. The MPO Finance Subcommittee reviewed the growth rate for RUTF's and determined that a 3 percent rate could reasonably be expected to continue into the foreseeable future. Staff used the 3 percent growth rate to determine an annual funding increase of approximately \$1.3 million for RUTF. Figure D4 provides a summary of projected RUTF through 2050.

FIGURE D4: HISTORICAL RUTF

FUNDING TYPE	2008	2009	2010	2011	2012	2013	ANNUAL GROWTH RATE
RUTF	\$44,870,155	\$43,764,491	\$45,986,236	\$48,701,795	\$53,641,310	\$53,375,607	3%

## Local Funding

The MPO member governments and participating agencies generate local revenues for transportation improvements. Sources include debt service (proceeds from bonds sold, notes, and loans) property taxes, tax increment financing districts (TIF), special assessments, and developer contributions. One should note that local revenue sources, as well as the amount of revenues generated, are the decisions of the local jurisdiction.

Table D5 shows the historic local revenues for MPO member governments for 2008 to 2013. The annual growth rate over the six years of available data was zero percent. The MPO Finance Subcommittee reviewed the growth rate for RUTF's and determined that a zero percent rate could reasonably be expected to continue into the foreseeable future. This decision was based on the historic average being viewed as a long-term trend rather than an anomaly and the likely effect of the property tax rollback passed by the state legislature. Staff determined the six year average of \$133 million in local funding. The six year average use used to account for fluctuations in bonding levels by local communities on a year-to-year basis. Figure D5 provides a summary of projected local funding through 2050.

FIGURE D5: HISTORICAL LOCAL FUNDING

FUNDING TYPE	2008	2009	2010	2011	2012	2013	ANNUAL GROWTH RATE
Local Funding	\$121,075,865	\$136,861,125	\$134,530,309	\$158,209,158	\$132,030,720	\$119,837,862	0%

## Total Funding

Figure D6 shows the projected federal, state, and local funding that is reasonably expected to be available over the life of the plan. A review of the Street Finance Reports over the last six years indicated that only 36 percent of the available state and local revenue for transportation is spent on construction expenditures, as indicated in Figure D1. The projections assume that this trend will continue into the future. Therefore 64 percent of the projected state and local revenues were subtracted from the total available revenue to accurately reflect operation, maintenance, and debt service costs. It was assumed that these costs would remain consistent as a percentage of the total projected revenue for each time period of Mobilizing Tomorrow.

FIGURE D6: PROJECTED FEDERAL, STATE, & LOCAL FUNDING THROUGH HY 2050

FUNDING TYPE	2015-2024	2025-2034	2035-2050	TOTAL
Federal	\$133,841,008	\$153,865,000	\$290,488,000	\$578,194,008
State	\$607,164,389	\$716,159,429	\$1,372,564,769	\$2,695,888,586
Local	\$1,337,575,065	\$1,337,575,065	\$2,140,120,105	\$4,815,270,235
Non-Construction Expenditures	(\$1,244,633,250)	(\$1,314,390,076)	(\$2,248,118,319)	(\$4,807,141,645)
Total Revenue	\$833,947,211	\$893,209,418	\$1,555,054,554	\$3,282,211,184

## Fiscal Capacity

### MPO Funding

The MPO developed an investment strategy for the Mobilizing Tomorrow that targets funding into six categories – roadway, system preservation and optimization, bridge, transit, transportation alternatives, and flex. The investment strategy recommended by the MPO considers only federal funds the MPO controls (STP & TAP funds) and non-federal match at a 40 percent federal – 60 percent non-federal ratio. For purposes of forecasting revenue for fiscal constraint, the transit, system preservation and optimization, and bridge categories are dedicated set-asides with minimum funding targets (10 percent of STP funds each for transit and system preservation and optimization, and 15 percent of STP funds for bridges). A maximum of 60 percent of STP funds are targeted to fund the regionally significant roadway projects listed in this plan. An additional five percent of STP funds would be left unallocated in a flex category, which would be available to any eligible STP use in a given year. TAP funds would be dedicated exclusively to transportation alternatives. Figure D7 summarizes the breakdown of available STP and TAP funds considered in each time period of Mobilizing Tomorrow.

Figure D8 shows the amount of local funding (RUTF + local funding sources) available compared to the amount of funds necessary to match the projected STP and TAP through 2050. The table also includes the additional \$10 million annually to maintain the current system while still have a positive balance in each of the plans time periods. Figure D9 shows that the MPO has the fiscal capacity to match the projected STP and TAP funds that are expected to be available over the next 36 years.

FIGURE D7: MPO FUNDING AVAILABLE

FUNDING CATEGORY	2015-2024	2025-2034	2035-2050	TOTAL
Federal Funds by Category (40% of Funding)				
STP Funds	\$121,731,000	\$139,685,000	\$263,244,000	\$524,640,000
System Preservation & Optimization (10% of STP)	\$12,173,000	\$13,968,500	\$26,324,400	\$52,464,000
Bridge (15% of STP)	\$18,259,650	\$20,952,750	\$39,486,600	\$78,696,000
Roadway (60% of STP)	\$73,038,600	\$83,811,000	\$157,946,400	\$314,784,000
Transit (10% of STP)	\$12,173,100	\$13,968,500	\$26,324,400	\$52,464,000
Flex (5% of STP)	\$6,086,550	\$6,984,250	\$13,162,200	\$26,232,000
TAP Funds	\$12,109,760	\$14,180,000	\$27,264,000	\$53,553,760
Total Federal Funds	\$133,841,000	\$153,865,000	\$290,488,000	\$578,194,000
Local Match Funds by Category (60% of Funding)				
STP Match	\$182,596,500	\$209,527,500	\$394,866,000	\$786,960,000
System Preservation & Optimization	\$18,259,650	\$20,952,750	\$39,486,600	\$78,696,000
Bridge	\$27,389,475	\$31,429,125	\$59,229,900	\$118,044,000
Roadway	\$109,557,900	\$125,716,500	\$236,919,600	\$472,176,000
Transit	\$18,259,650	\$20,952,750	\$39,486,600	\$78,696,000
Flex	\$9,129,825	\$10,476,375	\$19,743,300	\$39,348,000
TAP Match	\$18,165,000	\$21,270,000	\$40,896,000	\$80,331,000
Total Matching Funds	\$200,761,500	\$230,797,500	\$435,762,000	\$867,291,000
Total Funding Available by Category (100% of Funding)				
STP-Eligible Total Revenue	\$304,327,500	\$349,212,500	\$658,110,000	\$1,311,600,000
System Preservation & Optimization	\$30,432,750	\$34,921,250	\$65,811,000	\$131,160,000
Bridge	\$45,649,125	\$52,381,875	\$98,716,500	\$196,740,000
Roadway	\$182,596,500	\$209,527,500	\$394,866,000	\$786,960,000
Transit	\$30,432,750	\$34,921,250	\$65,811,000	\$131,160,000
Flex	\$15,216,375	\$17,460,625	\$32,905,500	\$65,580,000
TAP-Eligible Total Revenue	\$30,275,000	\$35,450,000	\$68,160,000	\$133,885,000
Total Revenue Available	\$334,602,500	\$384,662,500	\$726,270,000	\$1,445,485,000

FIGURE D8: FISCAL CAPACITY OF MPO FUNDING

FUNDING TYPE	2015-2024	2025-2034	2035-2050	TOTAL
Available Matching Funds	\$700,106,000	\$739,344,000	\$1,264,567,000	\$2,704,017,000
Local Match Required	(\$182,501,850)	(\$209,844,750)	(\$396,275,400)	(\$788,595,000)
Additional Maintenance	(\$100,000,000)	(\$100,000,000)	(\$160,000,000)	(\$360,000,000)
Balance	\$417,604,150	\$429,499,250	\$708,291,600	\$1,555,422,000

## Transit Funding

The Des Moines Area Regional Transit Authority (DART) incurs ongoing costs for its operations. DART staff worked with Des Moines Area MPO staff to inflate DART's FY 2014 operating budget by three percent annually to calculate future annual operating costs. Other cost, such as fleet replacement, were inflated by four percent annual to be consistent with historical rates. Figure D9 includes a summary of DART's historic revenues from 2005 to 2014. Figure D11 provides a summary of projected capital and operating funding through 2050.

FIGURE D9: HISTORICAL TRANSIT FUNDING 2005-2014

YEAR	FEDERAL	STATE	LOCAL	TOTAL
2005	\$6,417,277	\$763,407	\$9,970,746	\$17,151,430
2006	\$7,303,958	\$946,249	\$11,041,701	\$19,291,908
2007	\$6,266,309	\$854,951	\$12,310,679	\$19,431,939
2008	\$7,689,326	\$1,823,084	\$13,744,850	\$23,257,260
2009	\$15,879,406	\$904,185	\$15,223,756	\$32,007,347
2010	\$17,513,167	\$5,198,952	\$19,942,085	\$42,654,204
2011	\$11,475,441	\$1,817,433	\$13,558,251	\$26,851,125
2012	\$11,007,788	\$1,404,303	\$14,835,720	\$27,247,811
2013	\$8,397,274	\$1,585,152	\$20,631,058	\$30,613,484
2014	\$8,517,522	\$1,796,276	\$20,394,341	\$30,708,139
10 Year % Increase	33%	135%	105%	79%
Annual % Increase	3%	14%	10%	8%

Source: DART

DART staff provided forecasts for federal, state, and local sources of revenue based on historical trends as well as anticipated award of discretionary funds such as TIGER and/or FTA Small Starts for proposed bus rapid transit services. Specific annual increases by program are as follows:

- Section 5307: capital at three percent increase, operating at zero percent increase;
- Section 5310: three percent increase;
- Section 5311: two percent increase;
- STP: four percent increase;
- STA: three percent increase;
- Fares: one percent increase;
- Advertising: three percent increase;
- Other local (including property tax): increased as necessary to fund future needs;
- Discretionary (ICAAP, Section 5330, and Section 5309): assumes full federal maximum is received for applicable projects.

FIGURE D10 DART'S FEDERAL, STATE, AND LOCAL FUNDING PROJECTIONS THROUGH HY 2050

FUNDING CATEGORY	2015-2024	2025-2034	2035-2050	TOTAL
Transit Capital Funds				
Federal	\$108,820,000	\$140,645,000	\$212,837,000	\$462,302,000
State	\$2,095,000	\$0	\$0	\$2,095,000
Local	\$24,569,000	\$36,488,000	\$62,254,000	\$123,311,000
Total Capital	\$135,484,000	\$177,133,000	\$275,091,000	\$587,708,000
Transit Operating Funds				
Federal	\$43,582,000	\$44,796,000	\$75,270,000	\$163,648,000
State	\$13,183,000	\$17,717,000	\$41,819,000	\$72,719,000
Local	\$310,901,000	\$476,331,000	\$1,180,219,000	\$1,967,451,000
Total Operating	\$367,666,000	\$538,844,000	\$1,297,308,000	\$2,203,818,000
Total Funds				
Total Revenue Available	\$503,150,000	\$715,977,000	\$1,572,399,000	\$2,971,526,000

## Iowa Department of Transportation Funding

Over the last 10 years, the Iowa DOT has invested an average of approximately \$68.5 million per year in the MPO planning area. Iowa DOT funding was projected by applying a 3 percent annual growth rate to the 10 year average. Figure D11 summarizes the funding available for projects on the DOT system.

FIGURE D11: IOWA DOT PROJECTED FUNDING THROUGH HY 2050

FUNDING TYPE	2015-2024	2025-2034	2035-2050	TOTAL
DOT Funding	\$803,025,000	\$1,003,525,000	\$2,033,080,000	\$3,839,630,000



