



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.

Funding Projections

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

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 governments' street and highway system for Federal Fiscal Years 2008-2017. These numbers include all roadways in the MPO planning area, not just the Federal Aid routes.

Maintenance includes costs associated with maintaining the existing physical infrastructure (i.e., pavement, signals, and right-of-way). Operation includes costs associated with snow removal, street lighting, equipment purchases, administration, and other related costs. Construction includes costs associated with 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 10 federal fiscal years. These numbers are used to estimate approximately how much funding is available for construction project. Data for the counties are reported differently. Therefore it was determine that the county numbers for the planning area were not significant enough to impact the percentages in **Figure D1**.

FIGURE D1: HISTORICAL STREET & HIGHWAY EXPENDITURES

FEDERAL FISCAL YEAR	MAINTENANCE	OPERATIONS	CONSTRUCTION	DEBT SERVICE	TOTAL EXPENDITURES
2008-2017	\$308,457,488	\$174,932,667	\$835,447,013	\$819,676,107	\$2,138,513,275
10-Year Average	\$30,845,749	\$17,493,267	\$83,544,701	\$81,967,611	\$213,851,328
Percent of Total Expenditures	14%	8%	39%	38%	100%

Historical Funding by Source

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

Federal Funding

The MPO used historical data going back to 1996 to determine the historical annual growth rate for Surface Transportation Block Grant (STBG) and Transportation Alternatives Program (TAP) funding over the 21-year period. The annual growth rate over this period was 10.6 percent for STBG funding and 9.3 percent for TAP funding. The historical growth rate for STBG 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 Congress's unwillingness to pass a gas tax increase to address the Highway Trust Fund shortfall. Staff used the 5 percent growth rate to determine an annual funding increase of \$674,105. The annual funding increase was added to each year to create a straight-line projection of STBG and TAP funding that is expected to be available through HY

FIGURE D2: HISTORICAL STBG & TAP FUNDING

FEDERAL FISCAL YEAR	STBG FUNDING	TAP FUNDING
1996	\$3,811,053	\$442,000
2017	\$12,297,098	\$1,185,000
Percent Change 1996-2017	223%	168%
Annual Growth Rate – Historical	10.6%	9.3%
Annual Growth Rate – Plan	5%	5%

Road Use Tax Fund

Figure D3 shows the total historical Road Use Tax Fund (RUTF) funding for MPO member governments from 2008 to 2017. The annual growth rate over the six years of available data was 7 percent. The MPO Finance Subcommittee reviewed the growth rate for RUTF 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 \$1.9 million for RUTF.

FIGURE D3: HISTORICAL ROAD USE TAX FUND REVENUE

FEDERAL FISCAL YEAR	RUTF
2008	\$35,066,596
2017	\$59,442,468
Percent Change 2008-2017	70%
Annual Growth Rate - Historical	7.0%
Annual Growth Rate – Plan	3%

Local Funding

Figure D4 shows the historical local revenues for MPO member governments from 2008 to 2017. The annual growth rate over the 10 years of available data was 3.3 percent. The MPO Finance Subcommittee reviewed the growth rate for local funding and determined that a 0 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. Based on this growth rate, staff determined the 10 year average of \$182.6 million in local funding. The 10 year average was used to account for fluctuations in bonding levels by local communities on a year-to-year basis.

FIGURE D4: HISTORICAL LOCAL FUNDING

FEDERAL FISCAL YEAR	
2008	\$141,039,272
2017	\$187,026,105
Percent Change 2008-2017	33%
Annual Growth Rate - Historical	3.3%
Annual Growth Rate – Plan	0%

Iowa Department of Transportation Funding

Figure D5 shows the historical funding spent in the MPO planning area by the Iowa Department of Transportation from 1995 through 2017. The average annual growth rate over this time period was 2 percent. After discussing with the Iowa DOT, it was determined that an annual growth rate of 2 percent could reasonably be expected to continue. Therefore, staff used the 2 percent growth rate to determine an annual funding increase of approximately \$1.1 million for Iowa DOT funding.

FIGURE D5: HISTORICAL IOWA DOT FUNDING

FEDERAL FISCAL YEAR	
1995	\$29,678,000
2017	\$42,484,857
Percent Change 2008-2017	43%
Annual Growth Rate - Historical	2.0%
Annual Growth Rate – Plan	2.0%

Transit Funding

Figure D6 shows the six-year average (FY 2013-2018) Des Moines Area Regional Transit Authority (DART) funding sources for capital and operating. MPO staff worked with DART staff to determine an expected growth rate for each of the funding types.

FIGURE D6: HISTORICAL TRANSIT FUNDING

TRANSIT CAPITAL FUNDS		
Funding Type	Six-Year Annual Average	Annual Growth Rate - Plan
5307	\$1,869,057	3%
5309	\$756,314	0%
5339	\$516,438	0%
5310	\$71,701	3%
PTIG	\$408,651	0%
Property Tax	\$1,661,639	5%
TRANSIT OPERATING FUNDS		
Funding Type	Six-Year Annual Average	Annual Growth Rate - Plan
5307	\$4,130,321	0%
5310	\$197,711	3%
5311	\$27,545	0%
STA	\$1,408,759	3%
Property Tax	\$14,011,669	5%
Fares	\$7,066,191	1%
Advertising	\$181,018	3%

Transit Funding Programs

The following is a list of federal and state funding programs for transit investments:

Metropolitan Transportation Planning Program (Section 5303): FTA provides funding for this program to the State based on its urbanized area populations. The funds are dedicated to support transportation planning projects in urbanized areas with more than 50,000 population.

Statewide Transportation Planning Program (Section 5304 and 5305): These funds come to the state based on population and are used to support transportation planning projects in nonurbanized areas. They are combined with the Section 5311 funds and allocated among Iowa's RPAs.

Urbanized Area Formula Program (Section 5307): FTA provides transit operating, planning, and capital assistance funds directly to local recipients in urbanized areas with populations between 50,000 and 200,000, based on population and density figures, plus transit performance factors for larger areas. Local recipients, for whom projects are programmed by the Des Moines Area MPO, must apply directly to the FTA.

Bus and Bus Facilities Program (Section 5339): This formula program provides federal assistance for major capital needs, such as fleet replacement and construction of transit facilities. All transit systems in the state are eligible for this program.

Enhanced Mobility of Seniors and Individuals with Disabilities Program (Section 5310): Funding is provided through this program to increase mobility for the elderly and persons with disabilities. Part of the funding is administered along with the nonurbanized funding with the remaining funds allocated among urbanized transit systems in areas with a population of less than 200,000. Urbanized areas with more than 200,000 in population receive a direct allocation

Nonurbanized Area Formula Assistance Program (Section 5311): This program provides capital and operating assistance for rural and small urban transit systems. Fifteen percent of these funds are allocated to intercity bus projects. A portion of the funding is also allocated to support rural transit planning. The remaining funds are combined with the rural portion (30 percent) of Section 5310 funds and allocated among regional and small urban transit systems based on their relative performance in the prior year.

Rural Transit Assistance Program (RTAP - Section 5311(h)): This funding is also used for statewide training events and to support transit funding fellowships for regional and small urban transit staff or planners.

TAP Flexible funds: Certain Title 23 funds may be used for transit purposes. Transit capital assistance is an eligible use of STBG funds. Transit capital and startup operating assistance is an eligible use of ICAAP funds. When ICAAP and STBG funds are programmed for transit projects, they are transferred to the FTA. The ICAAP funds are applied for and administered by the Iowa DOT's Office of Public Transit. STBG funds for small urban and regional transit systems are also administered by the Office of Public Transit.

State Transit Assistance (STA): All public transit systems are eligible for funding. These funds can be used by the public transit system for operating, capital, or planning expenses related to the provision of open-to-the-public passenger transportation. The majority of the funds received in a fiscal year are distributed to individual transit systems on the basis of a formula using performance statistics from the most recent available year.

Public Transit Infrastructure Grant Fund: This is a state program that can fund transit facility projects that involve new construction, reconstruction, or remodeling. To qualify, projects must include a vertical component.

Property Tax Levy: The Code of Iowa authorizes municipalities to establish a transit levy dedicated to support public transit up to the maximum amount of \$0.95 per \$1,000 dollars of valuation. DART employs a local property tax levy, which varies by DART member community depending on the amount of service provided to that community. DART also receives local funds, including, but not limited to, fare box revenue, revenue from contracts with business and other transportation providers (such as taxicabs or human service providers), and advertising revenue.

Projected Funding by Source

The following section outlines the projected funding that is reasonably expected to be available over the life of this plan.

MPO and Local Funding

Figure D7 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 past 10 years indicated that approximately 40 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. Therefore, 60 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. One-hundred percent of the federal funds are available for construction expenditures.

FIGURE D7: PROJECTED FEDERAL, STATE, & LOCAL FUNDING THROUGH HY 2050 (IN MILLIONS)

FUNDING TYPE	2020-2024	2025-2029	2030-2034	2035-2050	TOTAL
Federal	\$74.2	\$91.0	\$107.9	\$458.40	\$731.4
RUTF	\$337.5	\$385.2	\$432.9	\$1,706.40	\$2,862.0
Local	\$897.3	\$893.2	\$893.2	\$2,858.30	\$5,542.1
Non-Construction Expenditures	\$740.8	\$767.1	\$795.7	\$2,738.90	\$5,042.5
Available Funding for Construction Projects	\$493.9	\$511.4	\$530.5	\$1,825.90	\$3,361.7

Transit Funding

Figure D8 summarizes funding projections for the public transportation system. Funding is broken into capital and operational funding to more accurately reflect how DART would likely use each funding source. The annual growth rates from **Figure D6** were used to project funding for DART through HY 2050.

FIGURE D8: DART'S FEDERAL, STATE, AND LOCAL FUNDING PROJECTIONS THROUGH HY 2050 (IN MILLIONS)

FUNDING CATEGORY	2020-2024	2025-2029	2030-2034	2035-2039	2020-2050
Federal Total	\$42.59	\$33.66	\$14.92	\$56.42	\$147.59
Section 5307/5340 Funds	\$34.87	\$38.50	\$42.50	\$168.08	\$283.94
Section 5311 Funds	\$0.04	\$-	\$-	\$-	\$0.04
Section 5310 Funds	\$1.91	\$2.06	\$2.22	\$8.32	\$14.52
Section 5339 Funds	\$3.62	\$3.90	\$4.21	\$15.77	\$27.50
Discretionary/Competitive Federal Funds	\$30.00	\$20.00	\$-	\$-	\$50.00
Surface Transportation Funds	\$7.01	\$7.70	\$8.50	\$32.33	\$55.53
State Total	\$1.00	\$2.00	\$-	\$-	\$3.00
Local Total	\$42.77	\$10.74	\$9.28	\$37.59	\$100.39
Total Funding	\$121.23	\$84.90	\$66.71	\$262.09	\$534.92

Iowa DOT Funding

Figure D9 shows the projected Iowa DOT funding that is reasonably expected to be available over the life of the plan, assuming an annual growth rate of 2 percent.

FIGURE D9: IOWA DOT PROJECTED FUNDING THROUGH HY 2050 (IN MILLIONS)

	2020-2024	2025-2029	2030-2034	2035-2050	TOTAL
Bridge Funding	\$90.24	\$98.44	\$106.65	\$396.40	\$691.7
Roadway Funding	\$238.87	\$260.59	\$282.30	\$1,049.29	\$1,831.0
Total	\$329.1	\$359.0	\$388.9	\$1,445.7	\$2,522.8

Fiscal Capacity

The following section outlines the methodology used to calculate the fiscal capacity of the plan.

Projected Funding and Local Balance

Figure D10 outlines the available funding and local match required for the STBG program, TAP, and the required local match assuming that projects are funded at a 70/30 percent federal to local split. The approved investment strategy for the Mobilizing Tomorrow targets funding into six categories – system capacity, major reconstruction/replacement, bridge, system optimization, transit, and transportation alternatives. The target percentage for each of these categories is outlined in **Figure D10**.

FIGURE D10: FEDERAL FUNDING AND LOCAL MATCH BY FUNDING CATEGORY (MILLIONS)

FUNDING CATEGORY	2020-2024	2025-2029	2030-2034	2035-2050	2020-2050
Federal Funds by Category (30% of Funding)					
STBG Funds	\$67.6	\$83.0	\$98.4	\$418.1	\$667.1
System Capacity (30%)	\$20.3	\$24.9	\$29.5	\$125.4	\$200.1
Bridge (20%)	\$13.5	\$16.6	\$19.7	\$83.6	\$133.4
Reconstruction (25%)	\$16.9	\$20.8	\$24.6	\$104.5	\$166.8
System Optimization (15%)	\$10.1	\$12.5	\$14.8	\$62.7	\$100.1
Transit (10%)	\$6.8	\$8.3	\$9.8	\$41.8	\$66.7
TAP Funds	\$6.5	\$8.0	\$9.5	\$40.3	\$64.3
Total Federal Funds	\$74.2	\$91.0	\$107.9	\$458.4	\$731.4
Local Match Funds by Category (70% of Funding)					
STBG Matching Funds	\$157.8	\$193.7	\$229.5	\$975.6	\$1,556.6
System Capacity	\$47.3	\$58.1	\$68.9	\$292.7	\$467.0
Bridge	\$31.6	\$38.7	\$45.9	\$195.1	\$311.3
Reconstruction	\$39.5	\$48.4	\$57.4	\$243.9	\$389.2
System Optimization	\$23.7	\$29.1	\$34.4	\$146.3	\$233.5
Transit	\$15.8	\$19.4	\$23.0	\$97.6	\$155.7
TAP Matching Funds	\$9.8	\$12.0	\$14.2	\$60.4	\$96.4
Total Matching Funds	\$167.6	\$205.7	\$243.8	\$1,036.0	\$1,653.0
Total Funding Available by Category (100% of Funding)					
STBG Total Revenue	\$225.4	\$276.7	\$327.9	\$1,393.7	\$2,223.7
System Capacity	\$67.6	\$83.0	\$98.4	\$418.1	\$667.1
Bridge	\$45.1	\$55.3	\$65.6	\$278.7	\$444.7
Reconstruction	\$56.4	\$69.2	\$82.0	\$348.4	\$555.9
System Optimization	\$33.8	\$41.5	\$49.2	\$209.1	\$333.6
Transit	\$22.5	\$27.7	\$32.8	\$139.4	\$222.4
TAP Total Revenue	\$16.3	\$20.0	\$23.7	\$100.7	\$160.7
Total Revenue Available	\$241.7	\$296.7	\$351.6	\$1,494.4	\$2,384.4

Figure D11 shows the balance of local funding after subtracting the required local match for the STBG and STBG Set-Aside programs. The available matching funds excludes the federal amount listed in **Figure 7**.

FIGURE D11: PROJECTED LOCAL FUNDING BALANCE (MILLIONS)

	2020-2024	2025-2029	2030-2034	2035-2050	2020-2050
Available Matching Funds	\$493.9	\$511.4	\$549.6	\$1,825.9	\$3,380.8
Local Match Required	\$167.6	\$205.7	\$243.8	\$1,036.0	\$1,653.0
Balance	\$326.3	\$305.7	\$305.8	\$789.9	\$1,727.7

Figure D12 shows the total funding for transportation projects that is reasonably expected to be available through HY 2050.

FIGURE D12: TOTAL PROJECTED TRANSPORTATION FUNDING (MILLIONS)

	2020-2024	2025-2029	2030-2034	2035-2050	2020-2050
MPO (Federal Funds)	\$74.2	\$91.0	\$107.9	\$458.4	\$731.4
Local	\$493.9	\$511.4	\$549.6	\$1,825.9	\$3,380.8
State (Iowa DOT)	\$329.1	\$359.0	\$388.9	\$1,445.7	\$2,522.8
Transit	\$180.9	\$205.0	\$229.2	\$895.7	\$1,510.7
Total	\$1,078.0	\$1,166.4	\$1,275.6	\$4,625.6	\$8,145.6

Project Cost Projections

The Des Moines Area MPO relied on local governments to estimate costs for their respective projects in 2019 dollars. The first five years of the plan, 2020-2024, are populated with projects from the FFY 2020-2023 Transportation Improvement Program (TIP) and the FY 2020-2023 Transportation Capital Improvement Program (TCIP). Projects beyond 2024 were submitted for the following three time periods: 2025-2029, 2030-2034, and 2035-2050.

Projects costs were determined using a year of expenditure (YOE) calculated on the midpoint of each of the time periods. The Des Moines Area MPO used a 4 percent annual inflation rate recommended by the Federal Highway Administration (FHWA) to convert these costs into YOE dollars. The Des Moines Area MPO assumed that some projects would be constructed or implemented prior to the HY 2024, 2029, 2034, and 2050, and used HY 2022, 2027, 2032, and 2042 as average YOE for the time periods.

Figure D13 demonstrates the fiscal capacity to fund over \$5.3 billion of projects from 2020 through 2050 with a remaining balance of \$1,246.1 million.

FIGURE D13:FISCAL CAPACITY (MILLIONS)

2020-2050	
Total Available Funding	\$6,634.9
Total Project Costs	\$5,388.8
Excess Fiscal Capacity	\$1,246.1

Other Federal Funding Programs

The Des Moines Area MPO relied on local governments to estimate costs for their respective projects in 2019 dollars. The following is a list of other federal funding sources. Some of these include programs that member governments are eligible to apply for to fund projects. These include the CMAQ and STBG-Highway Bridge Program (HBP) funds and were not included in the funding projects as the annual awards to member governments are unpredictable. The other funds listed are used to fund Iowa DOT projects.

Better Utilizing Infrastructure to Leverage Development (BUILD): Formally known as the TIGER program, this highly competitive discretionary grant program provides funding for investments in road, rail, transit, and port projects that promise to achieve national objectives.

Congestion Mitigation and Air Quality Improvement Program (CMAQ): CMAQ provides flexible funding for transportation projects and programs tasked with helping to meet the requirements of the Clean Air Act. These projects can include those that reduce congestion and improve air quality.

National Highway Performance Program (NHPP): This program consolidates the National Highway System and the Interstate Maintenance Program into one program. NHPP expands the number of eligible roadway miles and funds that may be used to construct or improve NHS roadways, including state highways, U.S. highways, and Interstates.

STBG Highway Bridge Program (STBG-HBP): The Iowa DOT maintains a portion of Iowa's STBG funds to be targeted directly to counties and dedicated specifically to county bridge projects. A portion of these funds are required to be obligated for off-system bridges. The remaining funds can be used on either on-system or off-system bridges.

Highway Safety Improvement Program (HSIP): This is a core Federal-aid program that funds projects with the goal of achieving a significant reduction in traffic fatalities and serious injuries on public roads. Portions of these funds are set aside for use on high-risk rural roads.

Federal Lands Access Program (FLAP) and Tribal Transportation Program (TTP): The FLAP Program provides funding for projects that improve access within, and to, federal lands. The FLAP funding will be distributed through a grant process where a group of FHWA, Iowa DOT, and local government representatives will solicit, rank, and select projects to receive funding. The TTP provides safe and adequate transportation and public road access to and within Indian reservations and Indian lands, and funds are distributed based on a statutory formula based on tribal population, road mileage, and average tribal shares of the former Tribal Transportation Allocation Methodology.

Demonstration Funding (DEMO): Demonstration funding is a combination of different programs and sources. The FHWA administers discretionary programs through various offices representing special funding categories, and an appropriation bill is used to provide money to a discretionary program. Other examples can include special congressionally directed appropriations during the reauthorization of the transportation bill or through legislative acts, such as the American Recovery and Reinvestment Act of 2009 (ARRA).