**FTA’s Narrative Guide to the MAP-21 Formula Program Flowcharts**

This document provides a narrative description, for the purposes of Section 508 compliance, of the formula flowcharts that are posted on [www.fta.dot.gov](http://www.fta.dot.gov). This document does not represent a legal explanation of the MAP-21 funding formulas. The statutory language describing the formulas can be found in the legislative text itself. For more information on how funds are distributed via the formulas **I.**

**The Section 5303 Statewide Planning Formula (please refer to 49 U.S.C. Section 5305 for the statutory language describing this formula).**

1. Start with the amount of funds appropriated by Congress (the appropriated amount).

1a. Subtract funds dedicated for program oversight (0.5% of funds appropriated)

1b. Add reapportioned funds that remain left over from prior fiscal years.

1c. The resulting amount is the program’s apportionment amount.

2. The apportionment amount is allocated to states on the basis of the population residing in large urbanized areas of the state compared with the population residing in large urbanized areas of all states.

2a. This formula contains a funding floor such that no state can receive less than 0.5% of the apportionment amount.

**II. The Section 5305 Metropolitan Planning Formula please refer to 49 U.S.C. Section 5305 for the statutory language describing this formula).**

1. Start with the amount of funds appropriated by Congress (the appropriated amount).

1a. Subtract funds dedicated for program oversight (0.5% of funds appropriated)

1b. Add reapportioned funds that remain left over from prior fiscal years.

1c. The resulting amount is the program’s apportionment amount.

2. Eighty percent of the apportionment amount is allocated to states on the basis of the population residing in large urbanized areas of the state compared with the population residing in large urbanized areas of all states.

2a. This formula contains a funding floor such that no state can receive less than 0.5% of the apportionment amount.

2b. Twenty percent of the apportionment amount is allocated to states on the basis of the proportion of urbanized areas of with over 1 million in population in a state compared with the population of urbanized areas of over 1 million people in all states.

**III. The Section 5307 Urbanized Area Formula Program Formula (please refer to 49 USC Section 5336 for the statutory language describing this formula).**

1. Start with the amount of funds appropriated by Congress (the appropriated amount).

1a. Subtract $30 million set for passenger ferry grants, to be allocated through competitive selection.

1b. Subtract 3.07 percent of the appropriated amount to be apportioned on the basis of the number of low income individuals residing in urbanized areas.

1b(1). Seventy-five percent of the apportioned amount in step 1b is allocated to UZAs with a population greater than 200,000 and based on the ratio of the number of eligible low-income individuals in each urbanized area to the number of eligible low-income individuals in all urbanized areas.

1b(2). Twenty-five percent of the apportioned amount in step 1b is allocated to UZAs with a population less than 200,000 and based on the ratio of the number of eligible low-income individuals in each urbanized area to the number of eligible low-income individuals in all urbanized areas.

1c. Multiply the appropriated amount less the amount apportioned on the basis of low-income by .75% to calculate the amount of funds dedicated for he Small Transit Intensive Cities (STIC) program.

1d. Multiply the appropriated amount by .5% to calculate the amount o funds dedicated to State Safety Oversight.

1e. Multiply the appropriated amount by .75%. This is the amount of funds that are dedicated for Section 5307 program oversight.

 1f. To obtain the amount to be apportioned under the Section 5307 formula, take the appropriated amount and subtract the amounts for the Ferry Boat program (1a), the low-income apportionment (1b), the STIC program (1c), the State Safety Oversight (1d), and Section 5307 oversight(1e). Then add reapportioned funds

2. Allocate 9.32% of the apportionment amount calculated in 1(f) to states for use in urbanized areas with populations of between 50,000 and 199,999. This is the amount for the governor’s apportionment tier.

2a. Fifty percent of the funds allocated to the governor’s apportionment tier are allocated to urbanized areas on the basis of the population of the urbanized areas in this tier and fifty percent of the funds in this tier are allocated on the basis of population multiplied by the population densities of the urbanized areas in this tier.

3. The remaining 90.68% of the apportionment amount is allocated to urbanized areas with populations of 200,000 persons or greater. This amount is divided into two tiers, a fixed guideway tier, which receives 33.29% of the funds and a bus tier, which receives 66.71% of the funds.

4. The amount available in the fixed guideway tier is divided into two tiers, a fixed guideway incentive tier, that receives 4.39% of the amount in the fixed guideway tier, and a fixed guideway non-incentive tier, that receives 95.61% of the fixed guideway tier.

4a. The funds in the fixed guideway incentive tier are apportioned on the basis of fixed guideway passenger miles traveled squared divided by operating costs.

4b. If the amounts calculated in step 4a results in any urbanized area with commuter rail service and a population of over 750,000 receiving less than 0.75% of the total amount of funds available in the fixed guideway incentive tier, then those areas are provided funds sufficient to bring their share of this tier up to .75% of the total apportioned in the tier. Funds are withdrawn from those areas that are over .75% in order to bring up the eligible areas that were under .75%.

5. Sixty percent of the funds available in the fixed guideway non-incentive tier (referenced in step 4 of this narrative) are apportioned on the basis of fixed guideway vehicle revenue miles. The remaining 40% of the funds in this tier are apportioned on the basis of fixed guideway directional route miles.

5a. However, if the amounts calculated in step 5 results in any urbanized area with commuter rail service and a population of over 750,000 receiving less than .75% of the total amount of funds available in the non-incentive tier, then those areas are provided funds sufficient to bring their share of this tier up to .75% of the total apportioned in the tier. Funds are withdrawn from those areas that are over .75% in order to bring up the eligible areas that were under .75%. .

6. The funds referenced in the bus tier (in step 3 of this narrative) are sub-divided into a bus incentive tier, which receives 9.2% of the total funds in the bus tier, and a bus non-incentive tier, which receives 90.8% of the funds in the bus tier.

6a. The funds in the bus incentive tier are apportioned on the basis of bus passenger miles traveled to the second power divided by operating costs.

6b. The funds referenced in the bus non-incentive tier (in step 6 of this narrative) are subdivided into a sub-tier that funds urbanized areas with populations of 1 million or greater, which receives 73.39% of the funds in the bus non-incentive tier, and a sub-tier that funds urbanized areas with populations of between 200,000 and 1 million, which receives 26.61% of the funds in the bus non-incentive tier.

6c. Fifty percent of the funds allocated to the 1 million or greater tier are apportioned to urbanized areas on the basis of bus vehicle revenue miles reported, 25% are apportioned on the basis of the urbanized area’s population, and 25% of the funds are populated on the basis of population density.

6d. Fifty percent of the funds allocated to the 200,000 to 1 million tier are apportioned to urbanized areas on the basis of bus vehicle revenue miles reported, 25% are apportioned on the basis of the urbanized area’s population, and 25% of the funds are populated on the basis of population density.

**IV. The Section 5340 Growing States and High Density States Formula (please refer to 49 U.S.C Section 5340 for the statutory language describing this formula).**

1. Start with the amount of funds appropriated by Congress (the appropriated amount).

2. Fifty percent of the appropriated amount is allocated to a growing states tier and fifty percent of the appropriated amount is allocated to a high density states tier.

2a. Each state’s share of the growing states tier is calculated by first projecting the state’s population in 2025. This projection is performed by identifying the population of the state in the apportionment year and subtracting from that value the state’s population according to the 2010 Census. The resulting value is multiplied by the number of years between the apportionment year and 2025, and this resulting value is added to the state’s population according to the 2010Census. Next, each state’s share of the growing states tier is calculated by dividing its 2025 projected population by the 2025 projected populations of all states.

2b. The funds allocated to each state under Step 2b, are divided into urbanized portion and non-urbanized portion on the basis of the percentage of the population in each state that resides in urbanized areas and outside of urbanized areas.

2c. The funds allocated to individual urbanized areas in a state is calculated by dividing an individual urbanized area’s population by the population of all of the urbanized areas in that state.

2d. The amount calculated for each urbanized area in step 2c is added to the Section 5307 apportionment for that urbanized area and displayed in FTA’s apportionment notice

2e. The amount calculated for each state based in step 2b is added to the Section 5311 apportionment for that state and displayed in FTA’s apportionment notice.

3. The high density tier is allocated to states with a population density equal to or greater than 370 persons per square mile. This results in the following states receiving funds: Massachusetts, Maryland, New Jersey, Rhode Island, New York, Connecticut, and Delaware.

3a. The relative amount of funds allocated to each of the states referenced in step 3 is calculated by:

3a(1). Taking the total population of the state in question and subtracting from this value the state’s land area multiplied by 370 persons per square mile multiplied by the urbanized area population of the state in question.

3a(2). The value calculated in step 3a(1) is divided by the total population of the state.

3a(3). The value calculated in step 3a(2) is divided by the values obtained when the calculations in 3a(1) and 3a(2) are performed for all seven states.

3b. The individual urbanized area’s share of the high density tier is calculated by dividing population in urbanized area of the state by the population of all of the urbanized areas in the state.

3c. The amount calculated for each urbanized area in step 3b is added to the Section 5307 apportionment for that urbanized area.

**V. The Small Transit Intensive Cities (STIC) Formula (Please refer to 49 U.S.C. Section 5336 for the statutory language describing this formula).**

1. The apportionment amount for the STIC program is 1.5% of the amount appropriated by Congress for the Section 5307 program.

2. The amount of money associated with each STIC performance factor is calculated by dividing the apportionment amount by the number of factors exceeded for that year.

3. The amount calculated in step 2 is divided by six and allocated to the following performance factors: passenger miles per vehicle revenue mile, passenger miles per vehicle revenue hour, vehicle revenue miles per capita, vehicle revenue hours per capita, passenger miles per capita, and passenger trips per capita.

**VI. The Section 5310 Formula Grants for the Enhanced Mobility of Seniors and Individuals with Disabilities (Please refer to 49 U.S.C. Section 5310 for the statutory language describing this formula).**

1. Start with the amount of funds appropriated by Congress (the appropriated amount).

1a. Subtract funds dedicated for program oversight (.5% of funds appropriated).

1b. Add reapportioned funds that remain left over from prior fiscal years.

1c. The resulting amount is the program’s apportionment amount.

2a. Sixty percent of the apportionment amount is allocated to Urbanized Areas with a population of at least 200,000 on the basis of seniors and individuals with disabilities in the state and territory compared with the total number of seniors and individuals with disabilities in all states.

2b. Twenty percent of the apportionment amount is allocated to states on the basis of of the number of seniors and individuals with disabilities residing in urbanized areas under 200,000 in population in the state and territory compared with the total number of seniors and individuals with disabilities in all urbanized areas.

2c. Twenty percent of the apportionment amount is allocated to states on the basis of the number of seniors and individuals with disabilities residing in non-urbanized portions of the state and territory compared with the total number of seniors and individuals with disabilities residing in non-urbanized areas of all states/territories.

**VII. The Section 5311 Formula Grants for Non-Urbanized Areas (Please refer to 49 U.S.C Section 5311 for the statutory language describing this formula).**

1. Start with the amount of funds appropriated by Congress (the appropriated amount).

1a. Subtract from the appropriated amount funds dedicated for program oversight (0.5% of funds appropriated) and 2% funds reserved for the Rural Transit Assistance Program (RTAP).

1a(1). Of the RTAP funds, subtract 15% of funds reserved for the National RTAP.

1a(2). The remaining RTAP funds are apportioned to states and territories on the basis of the population residing in non-urbanized areas of the state and territory compared with the total population residing in non-urbanized areas of all states and territories.

1a(3). The formula contains a funding floor such that no state can receive less than $65,000 in RTAP funds and no territory can receive less than $10,000 in RTAP funds.

1b. Add reapportioned funds left over from prior fiscal years

1c. Subtract from the appropriated amount twenty million from the appropriated amount to be apportioned for the Appalachian development public transportation assistance program. The states that are eligible under this program are AL, GA, KY, MD, MS, NY, NC, OH, PA, SC, TN, VA and WV.

1d. Subtract from the appropriated amount thirty million to be apportioned or allocated for public transportation on Indian reservations.

1d(1). Five million of the apportioned amount in step 1c is allocated toward discretionary funding.

1d(2). Twenty-five million of the apportioned amount in step 1c is allocated toward formula funding.

1d(3). Fifty percent of the apportioned amount in step 1c(2) is allocated to Indian tribes on the basis of the number of vehicle revenue miles provided by an Indian tribe divided by the total number of vehicle revenue miles provided by all Indian tribes.

1d(4). Twenty-five percent of the apportioned amount in step 1c(2) is allocated in equal shares to Indian tribes providing at least 200,000 vehicle revenue miles of service annually.

1d(5). Twenty-five percent of the apportioned amount in step 1c(2) is allocated to Indian tribes providing public transportation on tribal lands on which more than 1,000 low-income individuals reside based on the ratio of the number of low-income individuals residing on an Indian tribe’s lands divided by the total number of low-income individuals on tribal lands on which more than 1,000 low-income individuals reside. There is a funding ceiling that no tribe shall receive more than $300,000 of the apportioned amount. Also, any amounts not apportioned shall be allocated among Indian tribes receiving less than $300,000 in a fiscal year.

1e. To obtain the amount apportioned to states, subtract from the appropriated amount the amount associated with oversight (1(a)), RTAP (1a(1)), Appalachian allocations (1b) and tribal transit allocations (1c) and add any recoveries of funds that were obligated in prior years and have lapsed. The resulting amount is the apportionment amount.

2. Allocate 83.15 percent of the apportionment amount on the basis of non-urbanized land area and population.

2a. Twenty percent of the apportionment amount in step 2 is allocated to States and territories on the basis of the non-urbanized land area of the state or territory compared to the non-urbanized land area for all states and territories. There is a funding ceiling such that no state can receive more than 5% of the funds that are allocated on the basis of land area.

2b. Eighty percent of the apportionment amount in step 2 is allocated to States on the basis of the population residing in non-urbanized areas of the state compared with the total population residing in non-urbanized areas of all states and territories.

3. Allocate 16.85 percent of the apportionment amount to states on the basis of non-urbanized land area, low-income persons and vehicle revenue miles.

3a. Of the amount in step 3, allocate 29.68 percent to States and territories on the basis of the non-urbanized land area of the state or territory compared to the non-urbanized land area for all states and territories. There is a funding ceiling such that no state can receive more than 5% of the funds that are allocated on the basis of land area.

3b. Of the amount in step 3, allocate 29.68 percent on the basis of vehicle revenue miles from transit providers operating in non-urbanized areas in that State divided by the vehicle revenue miles in all non-urbanized areas in the United States. There is a funding ceiling such that no state can receive more than 5% of the funds that are allocated on the basis of vehicle revenue miles.

3c. Of the amount in step 3, allocate 40.64 percent on the basis of the number of low-income individuals residing in non-urbanized areas in that State divided by the number of low-income individuals in all non-urbanized areas in the United States.

**VIII. The Section 5337 State of Good Repair Grants (Please refer to 49 U.S.C Section 5337 for the statutory language describing this formula).**

1. Start with the amount of funds appropriated by Congress (the appropriated amount).

1b. Add reapportioned funds that remain left over from prior fiscal years.

1c. The resulting amount is the program’s apportionment amount.

2. Allocate 97.15 percent of the apportionment amount for the fixed guideway state of good repair formula.

2b. Calculate .75% of the fixed guideway state of good repair apportionment amount. This amount is dedicated to Section 5337 program oversight. Subtract this amount from the fixed guideway state of good repair apportionment amount to obtain the amount to be apportioned to urbanized areas.

2c. Fifty percent of the apportionment amount in Step 2 is allocated on the basis of the recipient’s share of the MAP-21 authorized amount apportioned through the SAFETEA-LU Fixed Guideway Modernization formula and using the NTD data used in the FY 2011 fixed guideway modernization apportionment modified to exclude HOV lanes.

2d. Fifty percent of the apportionment amount in step 2 is allocated on the basis of vehicle route miles and directional route miles.

2b(1). Sixty percent of the apportionment amount in step 2b is allocated on the basis of the number of fixed guideway vehicle revenue miles attributable to the urbanized area divided by the total number of all fixed guideway vehicle revenue miles attributable to all urbanized areas.

2b(2). Forty percent of the apportionment amount in step 2b is allocated on the basis of the number of fixed guideway directional route miles attributable to the urbanized area divided by the total number of all fixed guideway directional route miles attributable to all urbanized areas.

3. Allocate 2.85 percent of the apportionment amount to areas for the high intensity motor bus formula

3a. Sixty percent of the apportionment amount in step 3 is allocated on the basis of the number of fixed guideway vehicle revenue miles attributable to the urbanized area divided by the total number of all fixed guideway vehicle revenue miles attributable to all urbanized areas.

3b. Forty percent of the apportionment amount in step 3 is allocated on the basis of the number of fixed guideway directional route miles attributable to the urbanized area divided by the total number of all fixed guideway directional route miles attributable to all urbanized areas.

**IX. Section 5339 Bus and Bus Facilities Formula Grants (Please refer to 49 U.S.C. Section 5339 for the statutory language describing this formula).**

1. Start with the amount of funds appropriated by Congress (the appropriated amount).

1a. Subtract $65,000,000 from the appropriated amount to be distributed as follows: $1,250,000 is allocated to each state; and $500,000 is allocated to the District of Columbia and each Territory.

1b. Add reapportioned funds that remain left over from prior fiscal years.

1c. The resulting amount is the program’s apportionment amount.

2. Allocate 13.35% percent of the apportionment amount to states for use in urbanized areas with populations of between 50,000 and 199,999.

2a. Fifty percent of the funds allocated to the governor’s apportionment tier are allocated to urbanized areas on the basis of the population of the urbanized areas in this tier and fifty percent of the funds in this tier are allocated on the basis of population multiplied by the population densities of the urbanized areas in this tier.

3. Allocate 86.65% of the apportionment amount is allocated to urbanized areas with populations of at least 200,000 persons.

3a. These funds are sub-divided into a bus incentive tier, which receives 9.2% of the total funds in the bus tier, and a bus non-incentive tier, which receives 90.8% of the funds in the bus tier.

3b. The funds in the bus incentive tier are apportioned on the basis of bus passenger miles traveled to the second power divided by operating costs.

3c The funds referenced in the bus non-incentive tier are subdivided into a sub-tier that funds urbanized areas with populations of 1 million or greater, which receives 73.39% of the funds in the bus non-incentive tier, and a sub-tier that funds urbanized areas with populations of between 200,000 and 1 million, which receives 26.61% of the funds in the bus non-incentive tier.

3d. Fifty percent of the funds allocated to the 1 million or greater tier are apportioned to urbanized areas on the basis of bus vehicle revenue miles reported, 25% are apportioned on the basis of the urbanized area’s population, and 25% of the funds are populated on the basis of population density.

3e. Fifty percent of the funds allocated to the 200,000 to 1 million tier are apportioned to urbanized areas on the basis of bus vehicle revenue miles reported, 25% are apportioned on the basis of the urbanized area’s population, and 25% of the funds are populated on the basis of population density.