

Background

A financial plan can be an essential element in long term transportation planning. The cost of projects should be a consideration when identifying transportation needs during both planning and prioritization. The goal of Fiscal Realism in the Comprehensive Transportation Plan (CTP) is to provide the best available information to stakeholders and decision makers during the CTP process, allowing them to establish reasonable expectations and make important decisions about tradeoffs between alternatives, near-term vs. long-term priorities, and interim vs. final improvements. While Fiscal Realism is not intended to *exclude* any potential solutions to identified needs based solely on cost, it can be a useful tool as NCDOT-TPD, RPOs, and local steering committees work together to craft CTP recommendations.

Standard Procedure

Note: As with any standard procedure, there may be cases where the procedure must be modified to meet specific local or project needs. This procedure is provided as guidance only, and RPO staff should use judgment in determining appropriate modifications as needed.

Step 1: Decision to Include Fiscal Realism in a CTP

Fiscal Realism analysis is an *optional* component of the CTP, although it is highly recommended. It is recommended that discussion about the possibility of including a Fiscal Realism analysis occur at least twice early in the CTP process:

- Initial discussion between the RPO planner and the TPD engineer at the beginning of the process, in terms of whether the analysis is likely to be useful for the community and how this might fit into the overall schedule/process; and
- Follow-up discussion with the CTP steering committee, to explain the possible benefits of conducting the analysis and get the committee's buy-in to the concept.



If the Steering Committee chooses to conduct a Fiscal Realism analysis, then the RPO planner will be responsible for conducting the analysis and reporting the findings back. **Proceed to Step 2.**



If the Steering Committee chooses not to pursue Fiscal Realism then the decision can be recorded and work on the CTP can proceed as usual. **STOP.**

Step 2: Estimate Available Funding for the CTP Timeframe

The key to a good financial plan is to have reliable and accurate sources of future funding opportunities. While the goal is to obtain the best information possible, having reliable and accurate forecast sources for transportation funding may be a challenge due to changes in the political and funding climate over time. It is important to understand that future transportation funding is only an estimate and may change substantially in the future. Furthermore, different regions across the State have different obstacles and opportunities for transportation funding. Therefore, it is critical to allow each CTP steering committee to have the flexibility to determine the best financial plan approach for their individual CTP plan.

To help provide each RPO planner with guidance and resources to develop an appropriate funding forecast for their individual study area, the NCARPO is providing these examples and potential sources of data that may be utilized by individual CTP steering committees. One important note to keep in mind is that none of these example methods are set in stone—**they may be modified or combined as needed, or a different method may be documented and used if appropriate based on local conditions.** Notes and caveats have been identified for each of these methods—there is no single correct answer regarding the best way to forecast future funding, and RPOs are **encouraged to develop multiple forecasts** using multiple methods if possible (see Step 3). RPOs are **not required to develop multiple forecasts**, and may choose to only use a single method if desired for ease of analysis or understanding—note, however, that by only developing a single estimate you will have a higher chance of skewed results.

Estimation Method A: Historical Spending Patterns by County

One way of determining a reasonable estimate of spending over the next 20 to 30 years within a community is to look at spending that has occurred over the last 20 to 30 years. In order to do this, obtain the most recent “Never Ending Report” (NER) from the STIP Unit of NCDOT. This is an Excel spreadsheet that tracks all NCDOT spending by county on an annual basis since the year 1991, and is updated every year following the close of the previous fiscal year. The spending totals in the spreadsheet are broken out by construction spending versus maintenance spending, which is very helpful since the CTP is primarily interested in construction spending trends.

Example:

In 2016, Mayberry County is working on a CTP that is projecting transportation needs 30 years into the future. The most recent Never Ending Report at the time shows spending from the years 1991 through 2015 (a 25-year period). The RPO Planner for the Mayberry Area RPO takes the construction spending totals from each year in the spreadsheet and creates a table as follows:

<i>Year of Spending</i>	<i>Construction Spending (in Year of Expenditure Dollars) – As Reported on NER</i>	<i>Construction Spending (in Current Year (2016) Dollars) – Calculated by RPO Planner</i>
1991	\$1,258,348	\$2,219,534
1992	\$1,115,409	\$1,909,917
1993	\$811,182	\$1,348,617
1994	\$1,427,775	\$2,314,460
1995	\$909,083	\$1,433,035
<i>Skipping ahead (intervening years would also be calculated)...</i>		
2011	\$4,016,281	\$4,289,409
2012	\$3,260,890	\$3,412,037
2013	\$9,532,253	\$9,830,099
2014	\$23,186,553	\$23,529,352
2015	\$30,664,469	\$31,080,932
<i>Annual Average in 2016 Dollars:</i>		<i>\$9,303,011</i>

Using this method, the Mayberry Area RPO planner would calculate that Mayberry County could reasonably anticipate receiving around \$279 million (in 2016 Dollars) for construction projects over the next 30 years [30 years x \$9,303,011 per year].

Notes/Cautions on Method A:

- Remember: past spending patterns are not always an accurate predictor of future spending patterns. Funding formulas can change, political influence can shift, and on-the-ground conditions that drive decision making such as land use patterns and traffic conditions can change. In fact, most of the historical data in the Never Ending Report comes from a pre-STI timeframe when the funding formulas and project selection processes were very different from the current process.
- There are various methods for calculating the “current” value of past-year spending amounts. The simplest of these is to use the CPI Inflation Calculator on the Bureau of Labor Statistics website (www.bls.gov/data/inflation_calculator.htm), however this is not necessarily the best method since the rate of inflation on construction costs tends to be higher than the more general CPI metric. Other data sources, such as Construction Cost Indices, are more appropriate to use but also may be more difficult to track down—NCDOT does track some of this information for its internal use, and you may be able to find a recent analysis from NCDOT. It is very important to adjust the historical numbers to a single-year dollar value to ensure a fair comparison; however, even with these adjustments it is important to note that the comparison will not be strictly apples-to-apples because of the inherent difficulty in equating past values with current values.
- If there are very large “once-in-a-lifetime” projects that have occurred in the community, it may be reasonable to exclude those years from the analysis. A good example of this would be I-26 in Madison County, which was a very large project the scale of which may not be seen again in that county for a long time—if doing this analysis for Madison County, it would be important to consider the ramifications of either leaving-in or taking-out the data from the years when I-26 was built.
- The Never Ending Report may include some types of projects as “construction” that would not typically be issues considered at the CTP level, for example bridge replacements and spot safety projects. As a result, it is important to keep in mind that using the construction total as a guide could “over-estimate” the potential funding for CTP-type projects.

Estimation Method B: Ten-year STIP Extrapolation

Another way to estimate future construction spending in an area is to look at the current Statewide Transportation Improvement Program (STIP), which outlines planned spending for the next ten years. This ten-year spending could then be extrapolated to match the 20-to-30-year timeframe of the CTP.

Example:

Mayberry County only has a small number of projects programmed in the 2016-2025 STIP, none of which are highway capacity projects. There are also a number of Divisionwide projects that will impact Mayberry County, which is one of ten counties in the Division and represents 15% of the Division’s population. There are a few options for how Mayberry County could calculate its ten-year spending amount:

- *Option 1: Use only capacity-adding highway projects in the STIP that are specific to the CTP area. This would result in an estimate of \$0 for Mayberry County, which is unrealistic for long-range planning purposes and would not be appropriate in this case. However, in communities with*

higher levels of STIP funding for these types of projects, this may be a reasonable method of estimating (and would be most analogous to the types of projects typically recommended in a CTP).

- *Option 2: Use all highway-related projects in the STIP, including bridge replacements, that are specific to the CTP area. This would result in a ten-year spending estimate of \$825,000 for Mayberry County (which has one bridge replacement project in the STIP).*
- *Option 3: Use all highway and non-highway projects in the STIP that are specific to the CTP area. This would result in a ten-year spending estimate of \$4,892,000 (a bridge replacement project and an airport project).*
- *Option 4: Use all highway and non-highway projects in the STIP that are specific to the CTP area, as well as a portion representing 10% of the Divisionwide funding (as 1 out of 10 counties). This would result in a ten-year funding estimate of \$5,874,000.*
- *Option 5: Use all highway and non-highway projects in the STIP that are specific to the CTP area, as well as a portion representing 15% of the Divisionwide funding (as 15% of population). This would result in a ten-year funding estimate of \$6,365,000.*

Mayberry County's CTP is looking 30 years into the future, so the ten-year estimate would be multiplied by 3 to reach a 30-year total estimate. Based on the option chosen above, this could range from \$0 (Option 1) to \$19 million (Option 5).

Notes/Cautions on Method B:

- Transportation spending tends to be somewhat “lumpy”—in other words, an area may have little investment for long periods of time, but then have a major project come through the pipeline. By limiting the analysis to a ten-year window, this method could cause us to overestimate future spending in areas where a large project is currently funded in the STIP period, and to underestimate future spending in areas without a large project currently in the pipeline.
- The STIP includes many project types (such as bridge replacements and safety projects) that are often not included in CTP analyses, so it is important to consider whether or not to include these projects in the calculations. This is one of the reasons for having multiple options (1-5) above. In some areas these may be appropriate to consider and in other areas they may not.
- There are some funding pots in the STIP that are only allocated at the statewide level (such as certain safety programs), and it is difficult to know how these may filter down to the local level.
- While this method may result in lower estimates of available funding for many communities, that may also reflect a more accurate level of expectation given the recent changes in funding formulas and project scoring brought on by the STI law.
- Some areas may find it useful to combine Method B for the first ten years of the plan with another method (A, C, or D) for the years beyond that.

Estimation Method C: STI Funding Projections

Each STI cycle, the SPOT Office (or the STIP Unit) will put out a table showing the anticipated funding amounts available within each Division and Region for the upcoming Prioritization cycle. This table represents the funding available for programming within the 10-year STIP period. It includes both the ten-year total and the remainder after accounting for committed projects and

other “off-the-top” funding such as STP-DA (funding that large MPOs get to directly allocate to projects outside of STI). It is possible to use this information for estimating future funding availability by establishing a percentage factor based on population, highway lane miles, or some other indicator, and extrapolating the funding to future years.

Example:

Mayberry County is located within Division 15 and Region H for STI funding. NCDOT’s information shows that in the next Prioritization cycle (2018-27) there will be \$391,582,000 in Division funding for Division 15, of which \$110,785,000 remains available (uncommitted); there will be \$470,163,000 in Regional funding for Region H, of which \$203,872,000 remains available (uncommitted). Mayberry County makes up 15% of the population of Division 15 and 5% of the population of Region H. The Mayberry Area RPO planner considers two options for estimating future funding:

- *Option 1: Simple percentages of total. Assume 15% of total Division funding ($\$391,582,000 \times 0.15 = \$58,737,000$) and 5% of total Regional funding ($\$470,163,000 \times 0.05 = \$23,508,000$) could go to Mayberry County over ten years. Multiply by 3 to get the 30-year grand total: around \$247 million.*
- *Option 2: Accounting for other commitments on funding. Mayberry County has \$6,856,000 in committed projects in the current STIP. Assume 15% of remainder Division funding ($\$110,785,000 \times 0.15 = \$16,618,000$) and 5% of remainder Regional funding ($\$203,872,000 \times 0.05 = \$10,194,000$), plus the already-committed funding could go to Mayberry County over ten years. Add these together and multiply by 3 to get the 30-year grand total: around \$101 million.*

Notes/Cautions on Method C:

- Option 1 represents a bit of a “best case scenario” or “high estimate” for most RPO communities, as it assumes an equitable split of funding based on population rather than the actual factors that the SPOT office uses to score projects for funding (traffic congestion, crash history, etc.). In particularly rural communities, this may result in an overestimate of the funding potential; however, the more built-up the community is, the lesser the risk of overestimation. Option 2 introduces an additional element of realism (based on the removal of otherwise-committed funding from the equation), but still has the same potential for overestimation, particularly in more rural communities that may have more difficulty getting projects funded through the STI scoring process.
- Using this method allows RPOs to consider the funding available for STI Regional-eligible projects separately from the funding available for STI Division-eligible projects, if desired.
- This method assumes relative stability in the STI funding distributions over time, which may or may not be accurate. Actual funding distributions could change due to changes in legislative policy, changes in available revenue, and changes in population that affect the Regional funding formula.
- This method also assumes that a county/community will retain a constant percentage/share of the Division and Region population over time, which is a simplification. If desired, an RPO planner could use the county population forecasts developed by the Office of State Budget and Management to adjust future year percentages.

<https://www.osbm.nc.gov/facts-figures>

Estimation Method D: Population Share

A simple, albeit rudimentary, method of estimating future funding availability within a community is to take the statewide estimate of future funding and apply a factor based on the percentage of the community's population with relation to the state.

Example:

Mayberry County has a population of 40,000 residents, or 0.4% of the state's 10 million residents. NCDOT estimates \$15 billion in available revenues for construction/capacity projects over a ten-year period. Mayberry County's "share" of this total would be \$60 million over ten years [\$15 billion x 0.004], or \$180 million over 30 years [\$60 million x 3].

Notes/Cautions on Method D:

- This method is the simplest to calculate, but is also the least grounded in the reality of actual transportation funding patterns/constraints.
- Data other than population—such as total lane miles, total road miles, or vehicle miles traveled—could be used as an alternative basis for calculating percentages.
- The total funding estimate available can be calculated either based on the ten-year forecasts used in the STI process or based on the long-range forecasts in the statewide long-range transportation plan. The ten-year estimates are updated regularly by NCDOT, but the long-range (e.g. 20-30 year) estimates are usually only updated when a new statewide plan update is performed.
- As with Method C, this method assumes that overall funding availability and the proportional share of the community's population within the state will remain constant, both of which are great simplifications. If desired, Office of State Budget and Management forecasts of county population could be used to adjust future year percentages.

<https://www.osbm.nc.gov/facts-figures>

Other Potential Methods

This document is not intended to provide an exhaustive list of all potential methodologies for calculating future revenue. RPO Planners are free to use alternatives to these examples, as long as they can be documented. Some additional concepts that could be considered include:

- An estimate based on NCDOT's long-range (beyond 10-year) funding forecast. This is not typically updated as often as the 10-year forecast, but may be an option to consider.
- An estimate based on a percentage or share of the amount of funding received in the STIP by the whole RPO.
- If working in a county that also includes an MPO, or working on a joint CTP with an MPO, consider extrapolating based on the MPO's funding projection.



The RPO Planner should calculate anticipated future funding availability using one or more of the above methods as they deem appropriate to consider, or by some combination of the methods described above, or by another method not described above. Record the methods used, the data sources used, and the results, then **proceed to Step 3.**

Step 3: Summarize Findings and Identify Best Estimate or Estimate Range

After calculating the potential future funding in the CTP study area using one or more of the methods described in Step 2, the RPO Planner should work with the CTP Steering Committee to identify an appropriate number or range of numbers to use for the purpose of decision-making within the CTP. This decision can be recommended by the RPO Planner and confirmed by the steering committee, or can be decided as a group by the steering committee.

Example:

The RPO Planner for the Mayberry Area RPO is not sure which method would be best for her area and has calculated the available funding for Mayberry County using each of the outlined methods. The planner has put together the following notes to help with deciding which estimate to use for the CTP analysis:

Method A – estimates \$279 million over 30 years – Highest estimate, but based on move away from Equity Formula to STI maybe not the most reasonable estimate moving forward

Method B(1) – estimates \$0 over 30 years – Not Reasonable (zero spending)

Method B(2) – estimates \$2.5 million over 30 years – Not Reasonable (much lower than even low years in historic data)

Methods B(3), B(4), B(5) – estimate between \$15 million and \$19 million over 30 years – Reasonable, but low for long-term planning purposes; may be useful for thinking about highest priorities

Method C(1) – estimates \$247 million over 30 years – Reasonable but likely too high, based on the fact that the Mount Pilot MPO is within the same Division/Region and the MPO has both better-scoring projects than Mayberry County on average and draws down STP-DA funds off the top

Method C(2) – estimates \$101 million over 30 years – Reasonable, and reflective of STI constraints

Method D – estimates \$180 million over 30 years – Reasonable, and reflective of the county's "fair share" by population

Present findings to steering committee and make staff recommendation in favor of using either Method C(2) or Method D.

In this case, the planner found that two of the methods were most reasonable to recommend to the CTP steering committee, based on the circumstances in this community. After she recommended these two numbers to the steering committee, the committee decided to use a range of approximately \$100 million to \$180 million as their reasonable funding range for CTP purposes.

After the Steering Committee has made a decision regarding the future funding forecast, the RPO planner should write up a technical memo describing the analysis performed in Steps 2 and 3 and the decisions made. A sample memo is included in Appendix A.



If the Steering Committee selects a future funding forecast, then the RPO Planner should develop the technical memo described above, then proceed to use the forecast as part of the CTP analysis. **Proceed to Step 4.**



If the Steering Committee chooses not to pursue Fiscal Realism at this point, then the decision can be recorded and work on the CTP can proceed as usual. The RPO Planner should develop the technical memo as described above to document the work performed, noting that the steering committee chose not proceed further on this, then **STOP.**

Step 4: Incorporate Fiscal Realism Findings into the CTP Process

The purpose of conducting the fiscal realism analysis is to be able to incorporate the results into the decision making process of the CTP. While it is impossible to anticipate all the potential ways this information might be used, there are some common ways that the RPO Planner, TPD Engineer, and Steering Committee could factor into the CTP analysis:

- Project alternative analysis
- Project timing/phasing/prioritization
- Identifying interim/short-term projects vs. ultimate/long-term projects
- Project tolling discussions

An Important Note: The fiscal realism analysis should **not** be considered a **sole** determining factor for deciding whether to include a project in the CTP recommendations. It is one of **many** factors to be considered. There may be other valid reasons for including an expensive project recommendation in the CTP **even if** the project cost exceeds the anticipated revenue.

Project Alternative Analysis

When identifying potential solutions to transportation deficiencies, there is often more than one possible solution. In these cases, the TPD Engineer, RPO Planner, and Steering Committee might consider the anticipated funding to aid in selecting a preferred alternative. For example:

Mayberry County anticipates that \$100-\$180 million is a reasonable expectation of funding over the next 30 years. Route 50 is over capacity as it passes through the Town of Mayberry. Two alternatives for improvement are being considered—a \$100 million widening project and a \$300 million new location bypass. The fact that the \$300 million option is more expensive than the county’s anticipated funding forecast is useful information for the Steering Committee to consider in selecting its preferred alternative.



To the extent that Fiscal Realism is a pertinent factor in the selection of a preferred alternative for a project with multiple alternatives analyzed, this should be noted within the CTP plan document.

Project Timing/Phasing/Prioritization

One of the goals of the CTP process is to provide useful information to RPOs and local governments in the identification of projects to submit for STI Prioritization. One of the ways this can be done is to identify and document whether projects in the CTP are needed in the near-term or could be put off as longer-term needs. Sometimes this may also include a recommendation to split a project into

multiple segments or phases for implementation. Fiscal Realism can play an important role in this type of decision making. For example:

Mayberry County anticipates that \$100-\$180 million is a reasonable expectation of funding over the next 30 years, or \$50-\$90 million within the next 15 years. The CTP has identified a need to widen Route 10, which is estimated to cost \$150 million. The traffic analysis indicates that the western portion of Route 10 is in need of immediate improvement, but the eastern portion of Route 10 is currently under capacity and will not need widening for a longer period of time. Based on the fact that the project cost is higher than the expected 15-year revenue, the CTP Engineer recommends splitting the project into two \$75 million segments with the western portion noted as a near-term need and the eastern portion noted as a long-term need.

-or-

The traffic analysis indicates that the entire length of Route 10 is over capacity and in near-term need of improvement. Even though the \$150 million project cost is higher than the forecast of expected revenue, the steering committee chooses to recommend the full project as a short-term need. The committee determines that the cost is close enough to the funding estimate to still be reasonable.

-or-

Mayberry County has identified ten projects costing a total of \$300 million as highway needs. The steering committee chooses to use Fiscal Realism to identify a subset of these costing between \$50 and \$90 million to highlight as short-term needs for STI prioritization.



Include information within the CTP plan document related to any differentiation between short-term and long-term project needs, and potential project segmentation or phasing.

Interim Projects and Ultimate Projects

Sometimes a CTP will include a large, expensive recommended project that may be difficult or time-consuming to fund through the STI process. This “ultimate” project is still a desirable recommendation to include in the CTP, but there may also be smaller, less-expensive interim projects that could provide near-term relief to deficiencies. The fiscal realism analysis can help identify projects where this type of approach may be appropriate.

Mayberry County has identified a \$300 million Route 50 Bypass project as a need on the CTP. However, the fiscal realism analysis indicates that this project may cost more than what the community can realistically anticipate in funding. For this reason, the steering committee chose to also include a number of small intersection improvements on the current Route 50 facility through town—these would be more achievable projects for the community to pursue for short-term funding.



Incorporate identified interim projects into the CTP recommendations.

Project Tolling Discussions

Sometimes tolling of a recommended project may be considered as part of the CTP process. Tolling may be desirable for a number of reasons, the primary one being concerns that the project might be too expensive to fund through the traditional funding process in a timely manner. Fiscal realism can help the RPO identify projects where further follow-up analysis on tolling (including a Pre-submittal Assessment (PSA) from NCDOT and the NC Turnpike Authority) may be appropriate.

Mayberry County has identified a \$300 million Route 50 Bypass project as a need on the CTP. However, the fiscal realism analysis indicates that this project may cost more than what the community can realistically anticipate in funding. The steering committee chose to look into the possibility of tolling the Route 50 Bypass and asked NCDOT and the NC Turnpike Authority to conduct a PSA. The PSA determined that toll revenues would likely be high enough to justify tolling the project in order to reduce capital costs. The steering committee then made a decision to recommend within the CTP that the Route 50 Bypass be pursued as a potential toll project.

-or-

...The steering committee then made a decision not to pursue tolling of the project because of public opposition to tolls in the community. This decision was documented in the CTP.



Incorporate identified tolling decisions into the CTP recommendations.

Step 5: Summarize the Fiscal Realism Analysis within the CTP Plan Document

It is important to document the analysis performed and resulting decisions made as part of the CTP process. The technical details of how the financial forecasts were developed should be documented in the technical memo discussed in Step 3. The impact that fiscal realism has on specific project recommendations should be documented in the individual project cutsheets or descriptions as appropriate, as discussed in Step 4. Additionally, there should be a brief summary of Fiscal Realism included within the text of the CTP Plan Document. This summary should provide a basic overview of the purpose of the fiscal realism exercise, the funding total (or range) identified for use in the analysis, and the highlights of how the information was used to effect the plan recommendations. Sample language is included in Appendix B for reference, but can be modified as appropriate to meet the circumstances of each CTP.



The RPO Planner should draft the summary language for inclusion in the CTP Plan Document and provide this to the TPD Engineer.

Appendix A: Sample Technical Memorandum

Technical Memorandum on Fiscal Realism for the Mayberry County CTP

Developed by: Jane Doe, Planner, Mayberry Area RPO

Date: September 30, 2016

This memorandum documents the data, calculations, assumptions, and decisions made in the development of the Fiscal Realism component of the Mayberry County CTP. The CTP steering committee directed MARPO staff to pursue development of these financial forecasts at its December 14, 2015 meeting, and voted to approve the recommended financial forecast for use in CTP decision making at its August 4, 2016 meeting.

MARPO staff used the *CTP Fiscal Realism Procedure & Document Template* developed by NCARPO and dated May 2014 to guide this analysis. Staff used the four primary methods outlined in the *Procedure* document to develop multiple potential forecasts, which were then presented to the CTP Steering Committee for approval of a recommended forecast. The forecasts were developed as follows:

Method A – Historical Spending Patterns by County

Input Data Sources: Construction spending totals for Mayberry County from 1991-2015 taken from the NCDOT Never Ending Report; Spending totals converted into 2016 dollars based on the US Bureau of Labor Statistics Consumer Price Index Inflation Calculator.

<i>Year of Spending</i>	<i>Construction Spending in Year of Expenditure Dollars (from NER)</i>	<i>Construction Spending in Current Year (2016) Dollars (from CPI Calculator)</i>
1991	\$1,258,348	\$2,219,534
1992	\$1,115,409	\$1,909,917
1993	\$811,182	\$1,348,617
1994	\$1,427,775	\$2,314,460
1995	\$909,083	\$1,433,035
1996	\$1,135,395	\$1,742,184
1997	\$1,756,687	\$2,615,884
1998	\$4,927,733	\$7,224,373
1999	\$6,092,123	\$8,784,671
2000	\$11,082,845	\$16,596,430
2001	\$17,767,128	\$25,648,793
2002	\$15,349,059	\$21,907,813
2003	\$12,595,672	\$17,522,750
2004	\$9,820,208	\$13,403,417
2005	\$6,075,310	\$8,052,924
2006	\$4,487,114	\$5,719,792
2007	\$4,496,977	\$5,263,446
2008	\$3,205,985	\$3,598,395
2009	\$4,016,281	\$4,506,525
2010	\$3,260,890	\$3,565,313
2011	\$4,016,281	\$4,289,409
2012	\$3,260,890	\$3,412,037
2013	\$9,532,253	\$9,830,099
2014	\$23,186,553	\$23,529,352
2015	\$30,664,469	\$31,080,932

Appendix A: Sample Technical Memorandum

Annual Average Construction Spending in 2016 Dollars: \$9,303,011

\$9,303,011 per year x 30 years = \$279 million total

Method B – Ten-year STIP Extrapolation

Input Data Source: 2016-2025 Final STIP; NC Office of State Demographer 2016 county population estimates

- Option 1 – Spending on capacity-adding highway projects in Mayberry County
 - \$0 in 10-year STIP x 3 decades = \$0 total
- Option 2 – Spending on all highway projects in Mayberry County
 - \$825,000 in 10-year STIP x 3 decades = \$2.5 million total
- Option 3 – Spending on all projects in Mayberry County (all modes)
 - \$4,892,000 in 10-year STIP x 3 decades = \$15 million total
- Option 4 – Spending on all projects in Mayberry County, plus share of divisionwide projects based on county share
 - Mayberry County is one of 10 counties in Division 15, so should receive 10% of divisionwide projects, or \$982,000
 - \$4,892,000 in 10-year STIP in Mayberry County
 - \$982,000 + \$4,892,000 = \$5,874,000 in 10-year STIP
 - \$5,874,000 x 3 decades = \$18 million total
- Option 5 – Spending on all projects in Mayberry County, plus share of divisionwide projects based on county population share
 - Mayberry County contains 15% of the population in Division 15, so should receive 15% of divisionwide projects, or \$1,473,000
 - \$4,892,000 in 10-year STIP in Mayberry County
 - \$1,473,000 + \$4,892,000 = \$6,365,000 in 10-year STIP
 - \$6,365,000 x 3 decades = \$19 million total

Method C – SPOT Funding Projections

Input Data Source: Draft 2018-27 funding forecast provided by SPOT Office on 5/1/16 for use in STI Prioritization 4.0; NC Office of State Demographer 2016 county population estimates

NCDOT estimates that Division 15 will have a total of \$391,582,000 in the 2018-27 STIP, of which \$280,797,000 is currently committed and \$110,785,000 is currently uncommitted. NCDOT estimates that Region H will have a total of \$470,163,000 in the 2018-27 STIP, of which \$266,291,000 is currently committed and \$203,872,000 is currently uncommitted.

Mayberry County's population represents 15% of Division 15's population and 5% of Region H's population.

- Option 1 – Percentage of total funding available based on county's population share
 - 15% of \$391,582,000 Division 10-year funding = \$58,737,000
 - 5% of \$470,163,000 Region 10-year funding = \$23,508,000
 - (\$58,737,000 + \$23,508,000) x 3 decades = \$247 million total
- Option 2 – Spending on committed projects in Mayberry County, plus percentage of uncommitted funding available based on county's population share
 - \$6,856,000 in committed funding in Mayberry County in current STIP

Appendix A: Sample Technical Memorandum

- 15% of \$110,785,000 uncommitted Division 10-year funding = \$16,618,000
- 5% of \$203,872,000 uncommitted Region 10-year funding = \$10,194,000
- (\$16,618,000 + \$10,194,000) x 3 decades = \$101 million total

Method D - Population Share

Input Data Source: Draft 2018-27 funding forecast provided by SPOT Office on 5/1/16 for use in STI Prioritization 4.0; NC Office of State Demographer 2016 county population estimates

- Mayberry County's 40,000 residents make up 0.4% of the total state population (10,000,000).
- NCDOT estimates \$15,000,000,000 in total available funding for the 2018-27 STIP
- 0.4% of \$15 billion 10-year funding = \$60 million
- \$60 million x 3 decades = \$180 million total

Selection of Forecast for Analysis

Method	30-year Funding Estimate	Selected for Use
A	\$279,000,000	No - too high
B (1)	\$0	No - too low
B (2)	\$2,500,000	No - too low
B (3)	\$15,000,000	No - too low
B (4)	\$18,000,000	No - too low
B (5)	\$19,000,000	No - too low
C (1)	\$247,000,000	No - too high
C (2)	\$101,000,000	Yes
D	\$180,000,000	Yes

The CTP Steering Committee reviewed the above estimates on August 4, 2016 and determined Methods C (2) and D to be the most appropriate for use in the CTP analysis, recommending that a range of \$100 million-\$180 million be used to inform decision making. The committee determined that Methods B (1-5) were all too low to be of practical use for the analysis. Method A was determined to be unrealistic because it was based on older pre-STI data and reflected several large projects that were funded in the past. Method C (1) was determined to be too high because the steering committee wanted to use a more conservative estimate.

Fiscal Realism

The goal of incorporating fiscal realism into the CTP process is to help decision makers and other stakeholders have realistic information about the cost of proposed transportation solutions and the availability of future transportation funds, in order to encourage discussion about the reasonableness of accomplishing projects over the time period of the plan. The goal is not to exclude any potential identified solution, but to encourage discussion about what may reasonably be expected to be accomplished, including possible alternative or interim solutions. Actual future funding availability is impossible to predict, and the analysis conducted during the fiscal realism process is meant to provide an estimate or range of estimates that will necessarily differ from actual future project funding. This analysis does not indicate any commitment related to future project prioritization or funding.

Throughout the course of the CTP planning process, the Steering Committee discussed transportation funding on multiple occasions. Discussions covered the estimated cost of individual projects, the current and expected state of transportation funding generally, and historical funding patterns and funding expectations in the study area.

To ensure that decisions about achieving the transportation vision in Pilot City were made with a basis in reality, the Steering Committee used Method A from the *CTP Fiscal Realism Procedure & Document Template* by the NC Association of Rural Planning Organizations, as documented in a technical memorandum to the Pilot City CTP Steering Committee dated October 6, 2014, to explore a number of options for developing a funding estimate for the Pilot City study area. In the end, the Steering Committee decided to use a method based on Historical Spending Patterns by County. Recognizing that historical spending is not a guarantee that similar amounts will be spent in the future and that the selected method estimates funding at the county level, the Steering Committee felt most comfortable with this method based on actual historical data, given that Pilot City is the largest city in the county.

The average annual amount spent on construction projects in Pilot County since 1991 is \$10,814,274. Extrapolating that figure across the 30-year planning horizon of the CTP, the Steering Committee estimated that approximately \$325,000,000 was a suitable funding estimate for evaluating projects in the CTP.

Recognizing the difficulty in estimating the availability of future funds, the Steering Committee did not use the funding estimate to limit their vision of the total estimated cost of projects in the plan. Instead, the Committee used the estimate to determine if intermediary projects should be considered, or how critical short-term needs and competing priorities might affect the funding potential of other important projects. As a result, many larger and more expensive projects and other improvements recommended in this CTP were developed to be able to be divided into more fundable segments while preserving the purpose and need of each project.

The fiscal realism process allowed the Steering Committee to have more in-depth conversations about individual projects and how they fit into the vision for the area as a whole. As a result, the recommendations in this CTP are conceived to be more easily implemented and the Steering Committee members and the local participating jurisdictions have a better understanding of the transportation funding reality in Pilot County and North Carolina.