

North Carolina Turnpike Authority

Triangle Expressway Project
Engineering Report



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North Carolina Turnpike Authority
Triangle Expressway Project
Engineering Report

Table of Contents

Executive Summary	1
I. Introduction.....	1
II. Project Description.....	2
III. Project Cost and Schedule	3
I. Introduction	6
II. North Carolina Turnpike Authority Organization.....	7
A. Management and Administration.....	8
B. Organizational Structure	8
III. Triangle Expressway Project Description	12
IV. Project Implementation.....	13
V. Design Status	16
VI. Design Standards	16
A. Roadway	16
B. Pavement.....	17
C. Bridge and Wall Structures.....	18
D. Hydraulics.....	18
E. Lighting.....	19
F. Signing	20
G. Signals.....	21
H. Landscape and Aesthetics	22
I. Right of way.....	23
J. Utility Adjustments.....	23
K. Intelligent Transportation Systems	24
L. Fiber Communication Network	24
VII. Toll Collection Operations	25
A. Operations Plan.....	25
B. Toll Collection Systems.....	25
C. Customer Service Center / Violation Processing Center	26
D. Toll Collection System Operations and Maintenance	26
VIII. Routine Maintenance.....	27
IX. Projected Operations and Maintenance Costs	28
X. Repair and Rehabilitation Program	30
XI. Environmental Considerations	30
XII. Public Involvement.....	33
XIII. Triangle Expressway Project Costs.....	34
XIV. Cash Flow Projections.....	36
XV. Implementation Schedule	37

Appendices

Geometric Design Criteria	Appendix A
Typical Sections	Appendix B
CAMPO Memorandum of Understanding.....	Appendix C
NCTA/NCDOT Project Specific Agreement and Executory Contract for Lease of Right of Way	Appendix D
Senate Bill 1697 (Toll Enforcement Legislation).....	Appendix E
August 5, 2008 Roadway Construction Bid Opening Results and Revised Cost Estimate Summary.....	Appendix F
Figure 1 - Project Map	4
Figure 2 - Schematic Interchange and Toll Layout Sketch	5
Figure 3 - NCTA Organization	11

List of Tables

Table 1 - Projected Operations and Maintenance Expense	29
Table 2 - Cost Estimate Summary	35
Table 3 - Cash Flow Summary	36
Table 4 - Schedule of Construction Project Milestones	37

North Carolina Turnpike Authority

Triangle Expressway Project

Engineering Report

EXECUTIVE SUMMARY

I. INTRODUCTION

This report documents and describes the location, preliminary engineering design features, construction cost estimate, projected operation and maintenance expenses, and a construction schedule for the Triangle Expressway. This project is a new turnpike on new location that will be constructed by the North Carolina Turnpike Authority (NCTA).

The NCTA was created from a need to implement alternative financing to provide for key transportation projects during a time of rapid growth, dwindling resources and escalating construction costs. In October, 2002, North Carolina House Bill 644 created the NCTA. Since then, legislation has been enacted to further define the powers of NCTA, and to increase the number of studied projects. In addition, the North Carolina Legislature specifically allowed a portion of the Northern Wake Expressway to be included as part of the Triangle Expressway toll facility if permitted by the local Metropolitan Planning Organization. This permission was granted in July, 2006, and the section is now part of the proposed project presented within this report.

The Triangle Expressway project has been in various stages of planning and design since the late 1980's. The main purpose of the Triangle Expressway is to reduce traffic congestion along NC 55 and NC 54 within the counties of Wake and Durham near Research Triangle Park and provides a new location facility. The project is located on new alignment between the major cities of Raleigh, Durham and Chapel Hill and will improve area-wide mobility and safety, as well as enhance development and the quality of life for the Triangle region (See Figure 1).

Schematic designs have been developed and the Triangle Expressway project has been scheduled for construction by the NCTA as the first constructed turnpike project by the Authority. The project will extend NC 147, the Durham Freeway, from the current I-40 interchange to the Raleigh Outer Loop (NC 540/I-540). This segment will connect with the already constructed Northern Wake Expressway (NC 540) which will be modified to provide tolling as a part of this project. In addition, a western portion of the Raleigh Outer Loop will be constructed from NC 55 in Research Triangle Park south to the NC 55 Bypass in Holly Springs. The proposed Triangle Expressway project is a composition of projects identified in North Carolina Department of Transportation's (NCDOT's) State Transportation Improvement Program (STIP). The Western Wake Freeway, from NC 55 (South) to NC 55 (North), is included as project R-2635 in the NCDOT 2007-2013 STIP. The Triangle Parkway, from NC 540 to I-40, is included as Project U-4763B in the 2007-2013 STIP. Both of these projects are now listed as NCTA projects and both are scheduled for construction upon availability of funding).

The Western Wake Freeway project is located entirely within the Capital Area Metropolitan Planning Organization (CAMPO) boundaries. Triangle Parkway is located in both CAMPO and the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO). Both project components are listed in their respective MPO's 2030 Long Range Transportation Plans (LRTP). (Note: Currently both LRTPs are being updated to 2035 and have been approved in a draft form with finalization scheduled for June 15, 2009. Both project components remain listed appropriately in the draft 2035 LRTPs.) With the creation of the NCTA, the Authority studied the feasibility of the project as a toll road and has now assumed responsibility for the construction of the Triangle Expressway. This will enable the project to be implemented faster than could be expected under the normal NCDOT implementation process. The sale of turnpike revenue bonds will be used as the primary source to finance the design and construction of the Triangle Expressway project. In addition to the revenue bonds, funding is expected to be received via a loan as a result of the Federal TEA-21's Transportation Infrastructure Finance and Innovation Act of 1998 (TIFIA) and continued by SAFETEA-LU. The TIFIA loan office, established by the Office of the Secretary of Transportation (OST), Federal Highway Administration (FHWA), Federal Transit Administration (FTA) and Federal Rail Administration (FRA) provides federal credit assistance to large-scale highway, transit, passenger rail and intermodal projects. A TIFIA loan can be used by public or private transportation sponsors to complete a project's funding package. NCTA is completing the TIFIA application and is confident in obtaining a subordinate loan. Furthermore, it is anticipated that a gap in funding will exist between the required construction costs and the available loan amounts via these two sources. Therefore, NCTA has requested and received gap funding from the North Carolina Legislature on an annual basis in the amount of \$25 million.

The Triangle Expressway's design and construction will be accomplished through a series of two design-build roadway contracts and three design-build specialty contracts for landscaping, intelligent transportation system, and toll integration. The design-build contracts will require a guaranteed price and completion schedule as part of the process. This will allow the Triangle Expressway project to be completed much more quickly than a traditionally implemented and financed NCDOT project. A geometric design criteria synopsis for the project is listed in Appendix A and roadway typical sections are provided in Appendix B.

II. PROJECT DESCRIPTION

The proposed Triangle Expressway project is located in Wake and Durham Counties on new alignment. The project limits extend south from NC 147/I-40 interchange in the Research Triangle Park to Northern Wake Expressway, and then northeast to the Northern Wake Expressway (NC 540)/ NC 54 interchange and to the south to NC 55 Bypass in Holly Springs.

The Triangle Expressway project is located at an approximate 18 mile radius from downtown Raleigh in an arc from the northwest to the southwest. The Triangle Parkway segment spokes outward paralleling I-40 towards Chapel Hill. The corridor is approximately 18.8 miles in length and includes interchanges at NC 147/ I-40, Hopson Road/Davis Drive, NC 54, NC 55, Green Level Road, US 64, US 1, Old US 1, and NC 55 Bypass. Grade separations will be provided between the toll road and several local roads and small streams, as well as a single mainline CSX railroad on realigned alignment. The construction is expected to be typical for the area with structures limited to normal grade separations and flyovers. Much of the length of the Triangle Expressway project is on

undeveloped land; however, significant growth is occurring in this area and growth is projected by the CAMPO to continue into the future. CAMPO approved the project as a toll road on May 16, 2007. A Memorandum of Understanding outlining the commitments of both parties with respect to the Triangle Expressway was signed on June 25, 2007 (See Appendix C).

The NCTA has planned the development of the Triangle Expressway project in a single phase without planned project extensions. Due to the division of construction, a phased tolling of the project is anticipated. Once construction of the Triangle Parkway portion and toll plazas on the Northern Wake Expressway is complete, NCTA anticipates tolling this 6.2 mile section while construction is being completed on the 12.6 mile Western Wake Freeway section.

A portion of the Triangle Expressway project from NC 54 to NC 55 has been funded by NCDOT and was completed in the summer of 2007 as part of NCDOT's STIP. This segment does not currently include provisions for tolling. The toll facilities will be installed, constructed and financed by the NCTA. In addition, supplemental through-lane construction will be implemented from Triangle Parkway to existing NC 147 to facilitate the transition. See Figures 1 & 2 for the project location and anticipated toll collection locations.

III. PROJECT COST AND SCHEDULE

The Triangle Expressway project will be constructed utilizing a series of five design-build contracts – two for general roadway construction on specific segments, and three specialized contracts for landscaping, toll integration and intelligent transportation system integration. The design-build contractors will provide subcontracted construction engineering and inspection services. NCTA, however, will provide independent oversight with their construction management consultant. All contractors performing NCTA work shall be prequalified with the NCDOT to ensure capable firms are employed with a history of satisfactory work performance.

Based upon the preliminary designs prepared by NCTA and NCDOT for the project, the total construction cost including NCTA administrative costs through construction is \$955.1 million. The five design-build contracts are estimated to be: 1) Triangle Parkway Roadway & Northern Wake Expressway Toll Plaza Construction – \$135.8 million; 2) Western Wake Freeway Sections A, B & C Roadway Construction – \$509.3 million; 3) Landscaping – \$5.9 million; 4) ITS – \$8.1 million; and 5) Toll Integration – \$13.6 million. The NCTA costs which include general engineering, right of way acquisition, utility relocations, environmental mitigation, construction oversight, feasibility studies, environmental planning and permitting, surveying and mapping is estimated at \$282.4 million for the project.

The construction contracts for the Triangle Expressway are scheduled to be executed immediately following financial close. Shortly after the construction contracts are executed, subsequent contracts will be issued for ITS, toll system integration, and landscaping over the next six months. NCTA has structured the contracts to enable a phased tolling to begin as early as possible. The Triangle Parkway and Northern Wake Expressway segments are expected to be open to toll traffic 30 months from the date of financial close. The system wide completion date, including Western Wake Freeway, is expected 42 months from the date of financial close.

TRIANGLE EXPRESSWAY

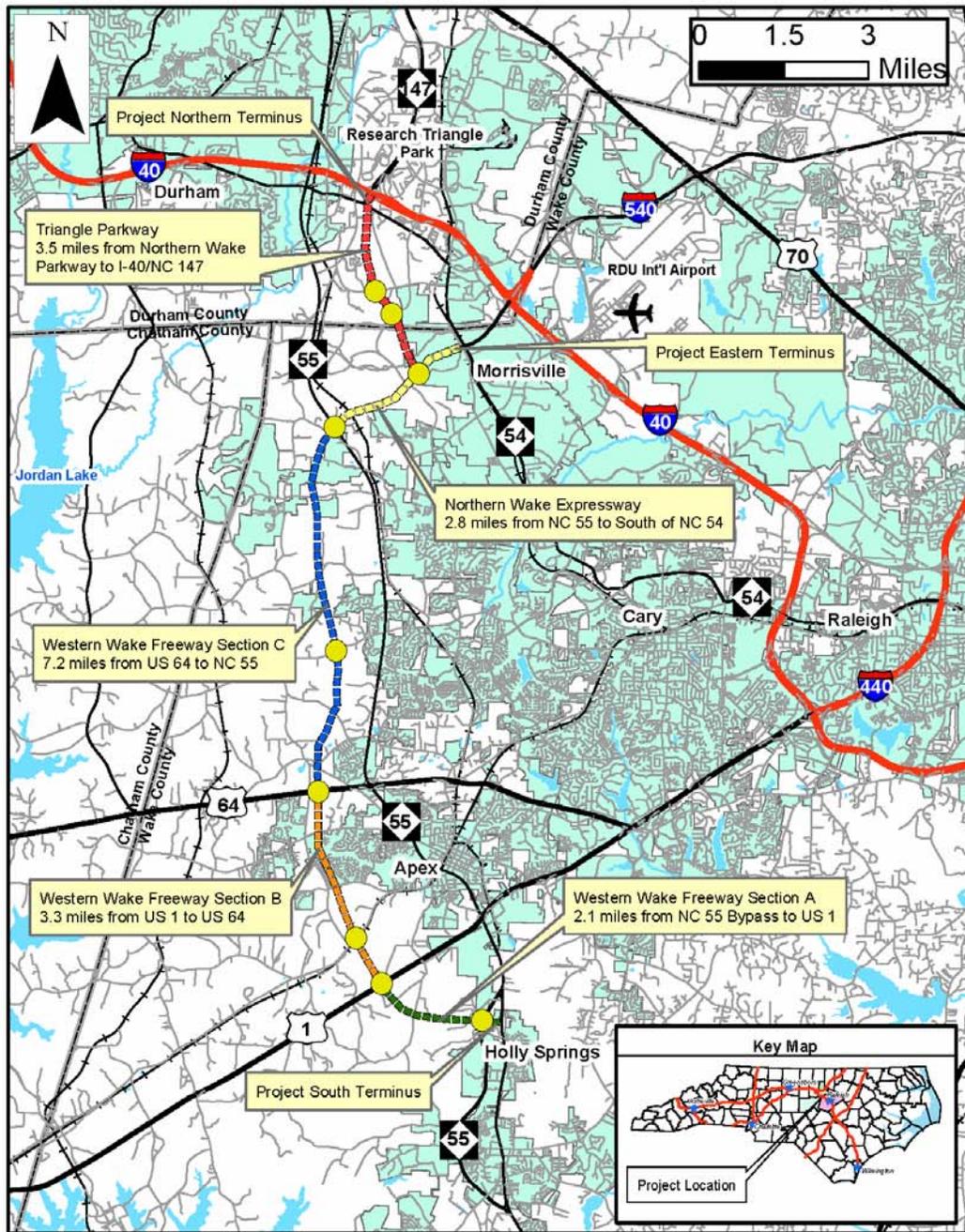


Figure 1 - Project Map

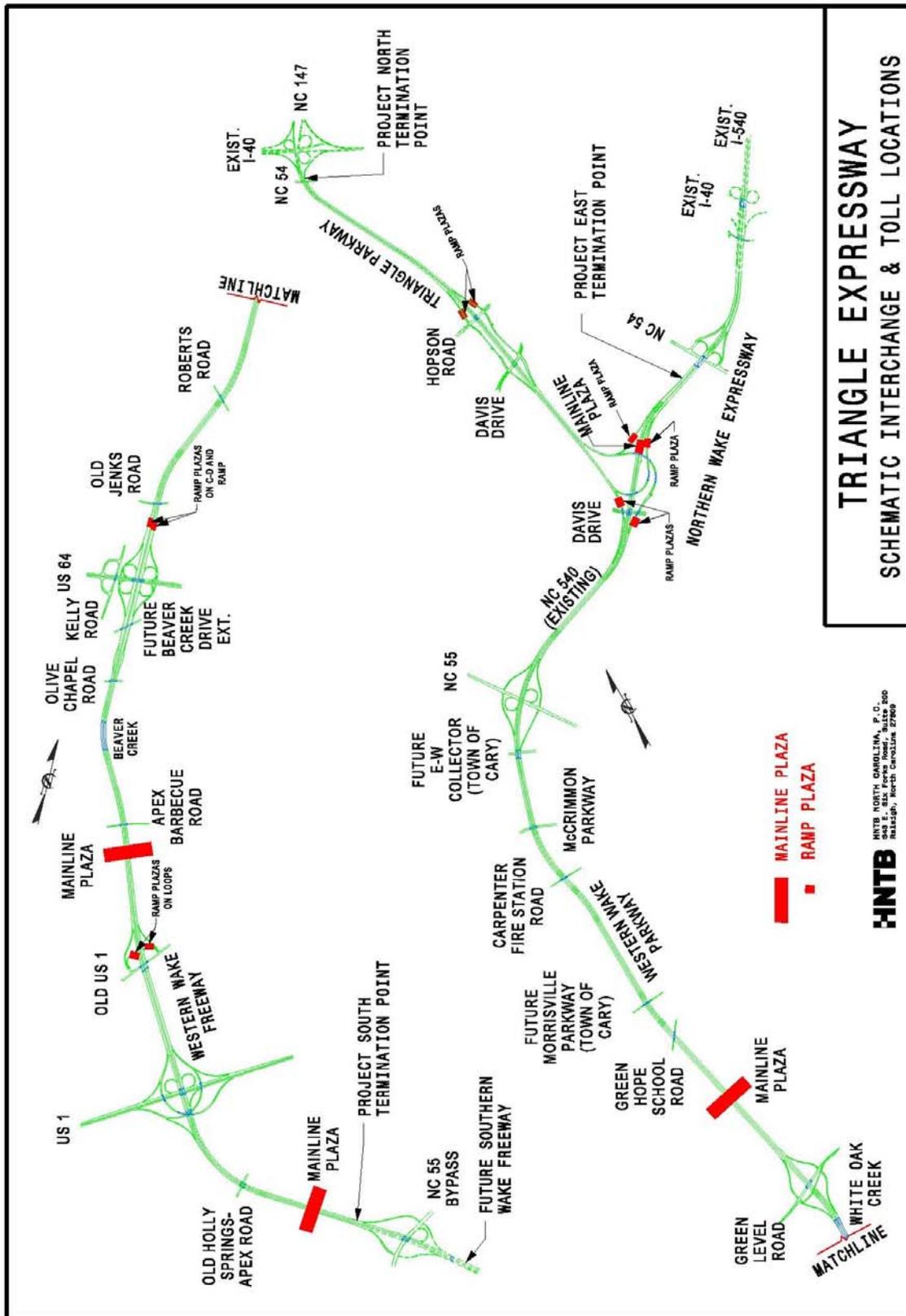


Figure 2 - Schematic Interchange and Toll Layout Sketch

North Carolina Turnpike Authority

Triangle Expressway Project

Engineering Report

I. INTRODUCTION

The North Carolina Turnpike Authority (NCTA) is authorized to study, plan, develop and undertake design work on up to nine toll roads in the State of North Carolina. The first toll project, Triangle Expressway, combines three separately planned and environmentally studied projects in the same area, Triangle Parkway, a portion of Northern Wake Expressway and Western Wake Freeway into a single financial bond offering. Individually, two projects were identified by the Capital Area Metropolitan Planning Organization (CAMPO) in their 2007-2013 Project Priority List, released in November of 2005. The Western Wake Freeway was listed as the number two priority and Triangle Parkway as the number eight highest priority project to be implemented in order to meet the mobility needs of the expanded metropolitan area boundary which includes Wake County and portions of Harnett, Franklin, Granville and Johnston counties. The Triangle Parkway portion of the Triangle Expressway is within the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) and CAMPO. In addition, the Regional Transportation Alliance (RTA), an organization whose membership includes over 100 of the leading area businesses and 22 area Chambers of Commerce, fully supports the acceleration of the Triangle Expressway through the use of toll revenue.

The cities of Raleigh, Durham and Chapel Hill, with their pleasant qualities of life, cutting edge employment opportunities in the Research Triangle Park, and renowned universities are continually growing with new residents. The Raleigh-Cary area has grown 10.5% from 2000 to 2003 to a population of nearly 884,000, making it the eleventh fastest growing metropolitan area in the United States during the period¹. According to the latest U.S Census data, growth in the region is expected to increase 98% between 2002 and 2030². CAMPO employment data indicates approximately 396,000 people were employed in the region in 2002 with forecasts of 541,000 people in 2010, 749,000 in 2020 and 951,000 in 2030³. In 2007, CNN's Money.com ranked the Triangle area third in providing the "Best Jobs in the Hottest Markets" and was noted as the top region for technology workers with "one of the most highly educated workforces in the country" with a diverse economy and a large public sector base. In the February 2007 edition of Forbes Magazine, Raleigh, North Carolina topped the list of the best places in the US to find a job. Forbes compiled the list by ranking unemployment rates, job growth, income growth, median household incomes and costs of living in the nation's 100 largest metropolitan areas. These rankings are not unusual for the area. Raleigh and the Research Triangle area have perennially been rated as one of the top places to work and live in the US since the early 1980's. With this rapid increase in population and employment, a

¹ US Census Table 1 –Population change in the 20 Fastest-Growing Metropolitan Statistical Areas: 2000-2003; http://www.census.gov/Press-Release/www/2005/2003msas_table1.xls

² CAMPO Socioeconomic Data Population Summary V-2004-02-26, http://www.campo-nc.us/SEDATA/CAMPO_SE_DATA-SEC04-POP_SUM-V2004-02-26.pdf

³ CAMPO Socioeconomic Data v-04Feb11 Employment Summary, http://www.campo-nc.us/SEDATA/CAMPO_SE_DATA-SEC02-EMP_SUM-V2004-02-13.pdf

proactive plan for the areas transportation system must be developed to adequately address the corresponding increase in travel demand. The Triangle Expressway is a key component of the regional transportation plan.

One of the driving forces behind much of the area's development is the Research Triangle Park. The Research Triangle, so called because it is centered near three major universities, and their respective cities, is a public/private, planned research park created in 1959 by leaders from business, academia and industry. The proposed Triangle Expressway will provide a critical link for commuters from the Park to communities to the north, south, and east.

With the significant increase in population in the Triangle area, a great burden has been placed on the existing roadway infrastructure. The North Carolina Department of Transportation (NCDOT) anticipated the growth and included these projects in the State Transportation Improvement Program (STIP). However, the State is currently experiencing significant funding shortages for highways, in part, due to rising global construction costs. The Triangle Parkway and Western Wake Freeway are shown to be unfunded in the 2007 STIP, which plans for the next seven years. Using NCDOT's traditional funding mechanisms to construct the combined Triangle Expressway project may take 20 years or more. Constructing Triangle Expressway as a toll facility will begin alleviating the areas congestion in approximately three years time.

The high population growth rate and the associated economic development in the Research Triangle area of North Carolina have outpaced the existing infrastructure's capacity to meet present and projected transportation needs. There is a need for this project, and the need is not solely based on future projections, but on the region's current mobility crisis. The project will result in a less congested and more economically productive transportation system for the Research Triangle area of North Carolina.

II. NORTH CAROLINA TURNPIKE AUTHORITY ORGANIZATION

The NCTA was created from a need to implement alternative financing to provide for key transportation projects during a time of rapid growth, dwindling resources and escalating construction costs. In October of 2002, North Carolina House Bill 644 provided an act to authorize public toll roads and bridges and the creation of a public agency, the NCTA. The NCTA is administratively associated with NCDOT but exercises powers independently, in most aspects. Initially, the bill limited the number of projects to be constructed to three with additional studied projects limited to three. However, House Bill 253 in August 2005, increased the allowable number of studied projects to a maximum of nine. As the Triangle Expressway evolved, the final section of the Northern Wake Expressway roadway project was under construction. Logistically, this segment would provide a critical link from the Triangle Expressway to I-40 to the north suburbs. However, existing state legislation prevented the conversion of the non-tolled State Highway System to a toll facility. To permit the joining of this portion to the Triangle Expressway project as a toll facility, Senate Bill 1381 in August, 2006, made a specific exemption for the segment of Northern Wake Expressway from NC 55 to I-40 if approved by the local Metropolitan Planning Organization. The Bill also limited the construction of the nine previously authorized planned projects to six specific projects – two of which were Triangle Parkway and Western Wake Freeway in Wake and Durham Counties which now make up the Triangle Expressway.

The NCTA is governed by a 9-member Authority Board. Four representatives are appointed by the General Assembly - two based upon the recommendation of the President Pro Tempore of the Senate, and two based upon the recommendation of the Speaker of the House of Representatives. The remaining members consist of the Secretary of Transportation, and four members appointed by the Governor. The Authority Board is responsible for appointing an Executive Director, the chief administrative officer who is charged with the daily administration of the Authority.

The Board of Directors has been organized into four working committees:

- **Executive Committee:** Coordinates responsibilities and actions of other committees and reviews proposals that are to be presented to the Board.
- **Finance Committee:** Oversees the fiscal well-being of the NCTA and its projects.
- **Operations and Personnel Committee:** Oversees all operational aspects of each project, staffing plans, communications and public information efforts.
- **Plans and Programs Committee:** Oversees the environmental, design and construction of each project including schedule, and cost and revenue projections.

A. Management and Administration

Management and administrative policies and procedures have been established to ensure that the operation of the NCTA is carried out in accordance with State law and the requirements of the trust indenture securing the bond financing. The staff of the NCTA ultimately will be responsible for the operation of all facilities of the NCTA, including the Triangle Expressway project. It is anticipated that each aspect of operations, including administration, finance, auditing and accounting, purchasing, toll collection, enforcement, safety and security, and maintenance will have its own policies and procedures. These policies and procedures will be refined and modified, as required, to accommodate the particular requirements as the NCTA is developed into the future.

B. Organizational Structure

The operations of the NCTA are managed by the Executive Director who is appointed by the Board. The Executive Director serves as the chief administrative officer of the NCTA. The Board meets regularly to review, discuss and determine policies affecting the operation and maintenance of the NCTA. The Executive Director reports directly to the Board. The Executive Director has overall responsibility for the operation and maintenance of NCTA facilities, as well as serving as the primary point of contact for NCTA in all dealings with the public and the liaison for all interagency communication and coordination.

The staff of the NCTA is organized into six functional departments, the managers of which will report to the Executive Director: Administration, Finance, Operations, Communications/Outreach and Community Affairs, Engineering and Legal Affairs. Certain functions necessary for the operation of the Authority's facilities, including toll collection, operation, maintenance, law enforcement, auditing and accounting, initially are being contracted out by the NCTA. These contracted activities, however, will be managed and closely monitored by NCTA staff or their consultants. An organizational structure showing the required functional areas follows.

Administration, under the direction of the Executive Director who is the chief administrative officer, will be responsible for the daily administration of the toll roads and bridges constructed, maintained and operated. The Director shall appoint, dismiss, and within Board limits, fix the compensation of administrative employees.

Finance, under the direction of the Chief Financial Officer, will be responsible for the overall financial activities for the NCTA, including traffic and revenue project studies, bond underwriting activities, bond legal matters, public/private partnerships (P3) issues, purchasing, investments and budget development. This department will manage all financial matters of the NCTA, including investment of funds, budgeting, accounting, auditing and bondholder reporting.

Operations, under the direction of the Chief Operating Officer, will be responsible for all toll operations and maintenance activities on NCTA facilities. Toll operations will consist of management of the toll system operations, including system operations and personnel, administration, including toll collection control, toll tag sales, violation enforcement and administration including audit and accounting, toll system maintenance, and toll facilities maintenance. Operations will process all requests for and will administer the procurement of materials, supplies and equipment for the NCTA. System maintenance will involve mowing and vegetation control, property damage repairs (primarily guardrail and signs), litter control, drainage maintenance and repairs, roadway lighting, and minor improvements.

Staff members of the Operations Department also will be responsible for safety, traffic control and law enforcement, and communications on the Triangle Expressway. The Chief Operating Officer will serve as liaison and will administer contracts with the toll collection system operator, data processing management, toll collection systems maintenance contractor, toll auditor, toll tag sales contractor, roadway maintenance contractor, police and emergency services, and the communications system maintenance contractor.

Communications/Outreach and Community Affairs, under the direction of the Director of Communication and the Director of Outreach and Community Affairs, will be responsible for the overall public relations activities for the NCTA, including the marketing of toll tags and public involvement efforts.

Public involvement policies and procedures will govern the flow of information from the NCTA and facility operators to the public. Initial responsibilities of the Outreach and Community Affairs Director will be to notify the public of the opening of the toll facility and the operational characteristics of the facility. Advertising and marketing to encourage the use of the facility, including the electronic toll payment, will also be the responsibilities of the Director, both initially and during the course of operations of the facility.

All public involvement and marketing activities will be coordinated through the Executive Director and the NCTA. The NCTA will utilize the services of a consultant specializing in public relations and marketing to properly develop and coordinate a marketing plan and to disseminate information.

Engineering, under the direction of the Chief Engineer, will be responsible for initial project studies, including environmental studies and preliminary designs for design-build advertisement, and construction of toll projects. Final design and construction of projects is

expected to use a design-build process. Engineering will be responsible for preparing specifications, bid packages, plans and standards, engineer's construction cost estimates and review and approval of the design-builder's prepared plans. The Chief Engineer is expected to complete acquisition of all necessary lands and rights of way required of an Authority project as well as coordination with utility owners to relocate and/or install utility facilities involved with the project. In addition, Engineering will be responsible for management of the contracted services of the general engineering consultant and, should the need arise, emergency engineered repairs. The Director of Construction, who reports to the Chief Engineer, will be responsible for instituting a comprehensive construction engineering and inspection services program along with participating in design-build preparation. Due to the complexity of the requirements of the National Environmental Policy Act (NEPA) and the influence upon scheduled projects, the Chief Engineer will also be responsible for coordination with the NEPA legal counsel.

Legal Affairs, under the supervision of the General Counsel, will be responsible for handling all legal challenges that face NCTA in a decisive manner. The General Counsel will provide advice to the Executive Director regarding all legal matters performed within or involving NCTA, render opinions about appropriate professional standards, standards of conduct involving NCTA personnel, coordination of significant legal issues including litigation involving NCTA, and establish NCTA policy on general legal issues.

For the initial operations of the Turnpike Authority, the NCTA has employed or is actively pursuing the employment of key staff to successfully implement the purpose of NCTA. The Executive Director, the Chief Financial Officer, the Chief Operating Officer, the Chief Engineer, Director of Construction, the Director of Outreach and Community Affairs, and the General Counsel have been hired with other supporting staff members. See Figure 3 for the NCTA Organization Chart. As the NCTA develops and matures, any number of the functions will be managed by additional in-house staff or supplemented by additional contracted services, as needed.



North Carolina Turnpike Authority (NCTA)
Organizational Chart

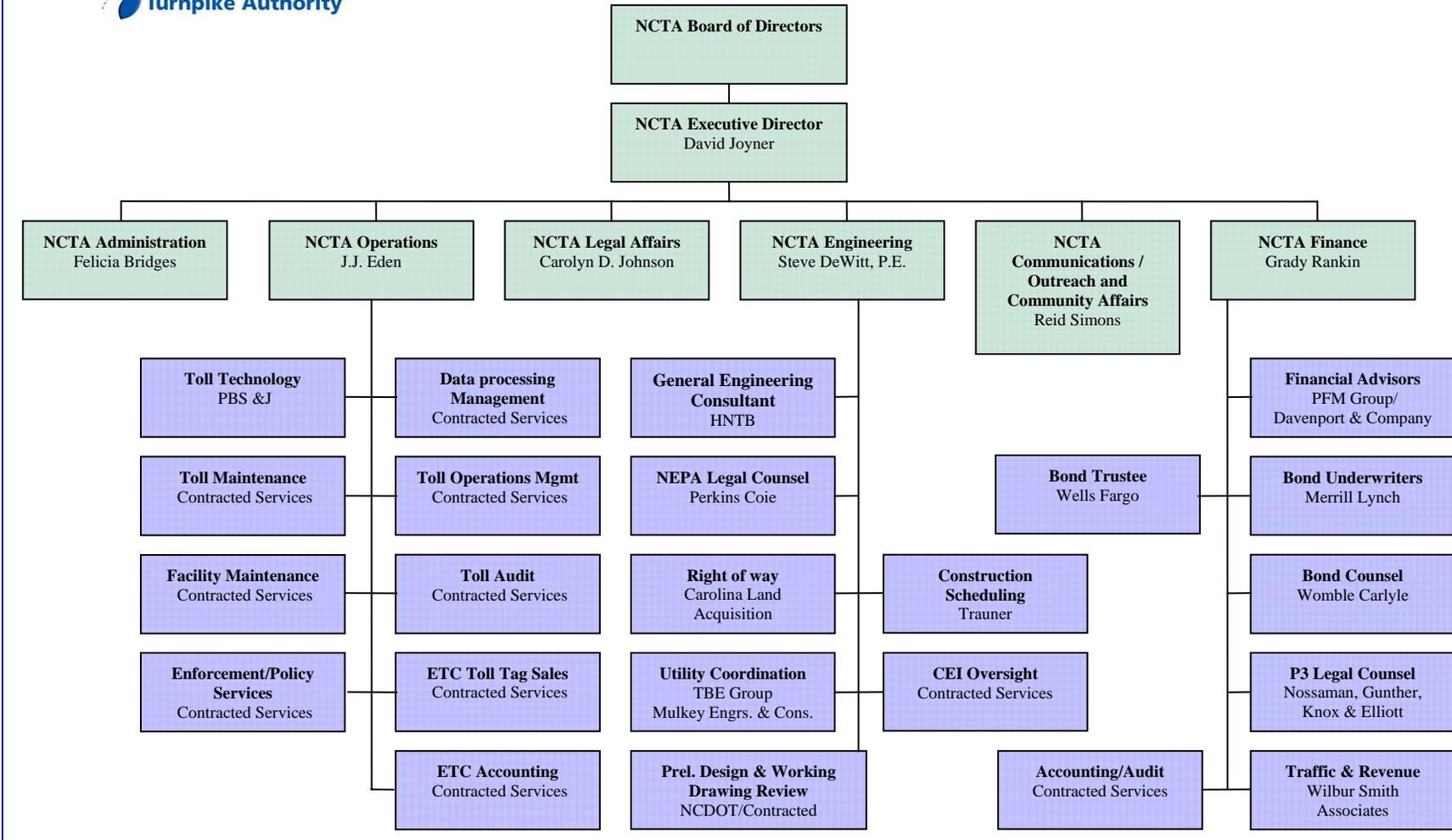


Figure 3 - NCTA Organization

III. TRIANGLE EXPRESSWAY PROJECT DESCRIPTION

The Triangle Expressway is a part of the transportation improvement program of highways within the Triangle Area and the heart of North Carolina. The project will extend the existing Durham Freeway (NC 147) to and will include a portion of the planned overall outer beltway system planned to encircle the Raleigh, North Carolina area. The project will provide alternative access to the Research Triangle Park from southern and western Wake County as well as easier access from northern Wake County from the already completed portion of NC 540/I-540 Outer Loop and Durham County from NC 147 (see Figure 1). The project is on new location except for the toll construction associated with the already constructed section of the Northern Wake Expressway.

The Triangle Expressway is a six lane divided, fully access controlled, north-south tolled highway on new alignment approximately 18.8 miles in length. It is located in southern Durham County and western Wake County; however, the majority of the project (16.4 miles) is in Wake County. It extends from the I-40/NC 147 interchange in Durham County to NC 55 Bypass near Holly Springs. The project generally parallels NC 55, a two to four lane facility which is the primary free route serving the area. The proposed Triangle Expressway is comprised of three components:

- 1) Triangle Parkway will extend from NC 147 at I-40 south 3.4 miles, terminating at an interchange with the Northern Wake Expressway;
- 2) A 2.8 mile long segment of the Northern Wake Expressway (NC 540) from NC 54 to NC 55. This segment of the Raleigh Outer Loop is being transferred to NCTA in support of this project. This 2.8 mile long segment was completed and opened to traffic in July 2007 by the NCDOT with TIP funds will enable Triangle Parkway and Western Wake Freeway to function as a contiguous toll facility;
- 3) Western Wake Freeway connects with Northern Wake Expressway and will extend from a northern junction with NC 55 near Research Triangle Park to a southern junction with NC 55 Bypass near Holly Springs, for a distance of 12.6 miles. For design purposes, this project was divided into segments A, B and C.

The proposed Triangle Expressway will have controlled access interchanges with the following roads: NC 147/ I-40, Hopson Road/Davis Drive, NC 54, NC 55, Green Level Road, US 64, US 1, Old US 1, and NC 55 Bypass (see Figure 2). Grade separations will be provided between the toll road and several local roads and streams, as well as a single mainline CSX rail line on realigned alignment. The construction is expected to be typical for the area with structures limited to normal grade separations and flyovers. The northern terminus will require widening of NC 147 at the existing I-40 interchange to provide adequate through movements with the toll road. The eastern terminus of the Triangle Expressway is southwest of the NC-540/NC 54 existing interchange and permits entry to/from the already constructed portion of the Northern Wake Expressway (NC 540). The southern terminus will be at the NC 55 Bypass near Holly Springs. The NCDOT is currently studying the Southern and Eastern Wake Freeway segments in order to complete the Raleigh Outer Loop. Construction of this final portion would necessitate the continuation of the through lanes of the Triangle Expressway project to connect with the loop. The future funding source and timeline of the Southern Wake Freeway is uncertain but could conceivably be studied as an NCTA project. The Southern Wake Expressway would extend the system an additional 16 miles from NC 55 Bypass east to I-40 south of Raleigh. Once both portions of the facility are constructed, the system will provide an attractive new route allowing through motorists to avoid increasingly congested sections of I-40 through south and west Raleigh.

NCDOT has identified two future projects which would require additional construction funded by NCTA within the Triangle Expressway Project. The two projects are: the potential widening and interchange improvements at the I-40/NC 147/Triangle Parkway Interchange; and the Triangle Parkway extension from the NC 540/ Triangle Parkway interchange to McCrimmon Parkway (STIP U-4763A). The Project Specific Agreement between NCDOT and NCTA (see Appendix D, page 23) requires NCTA to fund a portion of these projects if certain traffic and financial performance conditions occur. The provisions may further constrain the issuance of further bonds (other than refinancing of the original bonds) if the traffic conditions occur.

The proposed cross section will consist of six mainline travel lanes with inside and outside shoulders divided by a median. Mainline travel lanes will be 12' in width, with 12' minimum inside and outside shoulders. The median is 46' in width on the Triangle Parkway, 60' in width on the Northern Wake Expressway, and 78' for the Western Wake Freeway. All medians will be capable of accommodating future expansion of the main travel way if deemed prudent at some later date.

IV. PROJECT IMPLEMENTATION

The construction of Triangle Expressway is to be completed using the design-build method of contracting. Request for Qualifications for each roadway contract were received on January 10, 2008, and three short-listed teams were announced in late January, 2008. The Teams submitted Technical Proposals presenting their design details and schedules to NCTA in July 2008 for evaluation based upon the project rating criteria. A "no later than" scheduled completion date will be provided by NCTA and shorter schedules will be encouraged by cost incentives through the use of quality credit. The technical score will be assigned a quality credit as set forth in the request for proposals. The sealed price proposals will then be opened and the quality credit applied. The contractor selection will be based upon the composite price developed from the price proposal and quality credit.

(Note: Prior to the completion of this report, the sealed construction price proposals were opened. The bid results and an updated project cost summary are presented in Appendix F).

The project consists of five major roadway segments: Triangle Parkway, a southwestern portion of the Northern Wake Expressway, and Western Wake Freeways segments A, B and C. Prior to becoming a NCTA toll project, all components except for the Triangle Parkway were in various stages of study/design/construction as NCDOT projects. Preliminary plans were provided to the design-build teams as the project basis; however, the contractor will be responsible for final design of the project within the project criteria and specifications.

Roadway construction is expected to be let in two contracts: 1) Triangle Parkway construction and Northern Wake Expressway improvements; 2) Western Wake Freeway. In addition, three specialized contracts will be let with a similar design-build process for: 1) landscaping; 2) intelligent transportation system integration; and 3) toll system integration. Construction award for the projects is scheduled to be executed immediately following the financial closing date. Substantial completion of construction and the opening of the Triangle Parkway to toll traffic are anticipated to occur 30 months following the availability of funds. The Western Wake Freeway project is expected to open to toll traffic approximately one year later, or 42 months following financial close.

A portion of the Triangle Expressway project from NC 54 to NC 55, a part of the Northern Wake Expressway, was constructed by NCDOT and opened to traffic in July 2007. The toll facilities that will be installed on this section will be constructed and financed by the NCTA as part of the Triangle Expressway project. See Figure 2 for the location and extent of these elements.

The NCTA is implementing a comprehensive and proactive Project Management and Compliance Monitoring Plan for the project, designed to ensure that planning, design, right of way (ROW) acquisition, construction, operation and maintenance of the project meet all applicable federal, state and local laws and regulations (including the requirements generated by the NEPA process, as well as the design and construction standards and specifications). The NCTA will continue to implement and maintain this comprehensive and proactive Project Management and Compliance Monitoring Plan using several procedures, policies and oversight measures. The Plan includes the following concepts:

- **Planning:** The initial planning completed for the project was conducted by NCTA and/or the NCDOT. The regional FHWA office has been heavily involved in these projects. The regional FHWA office has been invited to attend all formal project public meetings and hearings. Frequent discussions have also been held with the FHWA to ensure project planning and environmental documents are in compliance with applicable federal statutes and regulations.
- **Preliminary Design:** Preliminary designs for the project were completed in part by external consultants contracted with the NCTA and in part by NCDOT. Enhancements to the overall design, full definition of the ROW requirements, utility designs, and coordination with the design-build teams will continue until project award. NCTA is coordinating closely with NCDOT's division personnel and design groups.
- **Final Design:** Final design will be completed by the selected design-build teams as part of the scope for the contracts. As part of the NCTA's management process, they will conduct frequent "over-the-shoulder" design reviews and audits of the project with FHWA and NCDOT to ensure that the project is in compliance with applicable design criteria from the earliest stages of design. The NCTA will utilize the NCDOT and other external consultants as necessary to provide direct oversight of the design-build team's design activities. The design-build teams will be required to complete and document an extensive design review program. The NCTA will be responsible for ensuring proper interagency coordination and oversight of these functions.
- **Right of Way Acquisition:** To ensure compliance with state and federal laws and regulations concerning ROW acquisition, the NCTA has entered into an agreement with Carolina Land Acquisitions (CLA) for professional services related to ROW acquisition. This ROW acquisition firm has a long history of completing ROW acquisition on state projects, having acquired the land necessary for the roadway on new location for the US 64 Bypass of Knightdale in eastern Wake County, the US 17 Bypass of Windsor in Bertie County and the Fayetteville Outer Loop in Cumberland County. As demonstrated on these very successful projects, CLA has a strong understanding of all state and federal laws and regulations pertaining to ROW acquisition. CLA will be responsible for completing all ROW acquisition within the stated guidelines and schedules.
- **Construction:** The NCTA will utilize private engineering firm(s) that report directly to the NCTA to provide construction management / construction oversight to manage / oversee the construction phase of the project. Activities will include monitoring and reviewing project documentation to ensure that plans, specifications, standards, reporting, procurement and construction are in compliance with applicable federal and state laws and regulations. The

NCTA's Director of Construction, a position within the NCTA Engineering Department, will be responsible for overseeing these activities. In addition, NCTA through the use of subconsultants and/or the General Engineering Consultant (GEC) will provide independent monitoring of construction to verify construction progress, contractor invoicing and quality of work. Construction engineering and inspection will be a part of the design-build contract. The design-build firm will be responsible for certifying the construction.

- QA/QC Testing: The NCTA will require the selected design-build teams to procure independent quality assurance / quality control firms to provide impartial testing and quality assurance services to the NCTA in connection with the project. The NCTA will designate an internal QA/QC coordinator to review and supervise the QA/QC testing activities. The NCTA's Director of Construction and an assigned QA/QC coordinator will be responsible for supervising the design-build teams as they complete these activities.
- Environmental and Permit Monitoring: The NCTA will require the selected design-build teams to procure an independent consultant to provide impartial environmental and permit monitoring services in conjunction with the project; this will include the monitoring of items during each phase of the construction, including construction runoff water quality device inspections, hazardous material spill reporting and response, compliance with US Army Corps of Engineers Section 404 permit requirements and NCDENR-DWQ 401 permit requirements, and notifications of archaeological discoveries. The NCTA will designate an internal environmental coordinator to review and supervise this monitoring program. NCDOT will also be assigned with erosion and sedimentation compliance during design reviews and during construction.
- To date, the NCTA has had frequent internal and external coordination meetings with key project stakeholders and team members to ensure that all potential problem areas are identified and resolved as early as possible.
- The NCTA will have an internal staff project manager for each project element. Work responsibilities will include management of the private sector consultants described above either directly or through the use of a primary engineering consultant/GEC, as well as substantive involvement in monitoring contractor payments and daily progress of the Project.
- The design-build teams will be required to hold weekly progress meetings and submit weekly progress/status reports to the NCTA. These efforts will be maintained throughout the duration of the project to ensure advanced notice of potential issues and early identification of related solutions.
- The NCTA will encourage local FHWA participation throughout development of the project. This intention to work closely with local and national FHWA personnel is consistent with project development to date, which has benefited significantly by local FHWA input. To effect the desired FHWA involvement, the NCTA plans to develop a regular meeting schedule with the local FHWA officials, as well as establish the reporting process in a format acceptable to FHWA.
- The design-build team with oversight from NCTA/NCDOT will provide preliminary railroad realignment track plans and preliminary railroad structure plans to CSX Transportation for review and approval. Final design drawings will also require final approval from CSX prior to construction.

V. DESIGN STATUS

The schematic design for the Triangle Expressway project was prepared in consultation with environmental, regulatory and resource agencies. Subsequently, as part of the design/build implementation of the Triangle Expressway project, the preliminary roadway plans have been provided to the short-listed design-build teams. The design-build teams will be responsible for the engineered final design for the contracts.

Based upon NCTA's anticipated schedule, the Triangle Expressway will begin final design immediately following availability of funds.

The specialized design-build contracts involving landscaping, ITS and toll system integration have been coordinated with the roadway construction design-build schedules.

VI. DESIGN STANDARDS

The Design Criteria for the Triangle Parkway, Northern Wake Expressway and Western Wake Freeway projects are consistent with the current practices and standards of NCDOT and the American Association of State Highway and Transportation Officials (AASHTO). The criteria for the geometric design are presented in summary form in Appendix A. As discussed previously, the facility is a compilation of previous NCDOT STIP projects under various levels of study. The system will be built utilizing the design-build process via two major roadway contracts and three specialized contracts.

A. Roadway

The proposed Triangle Expressway project will be a full controlled access facility and designed for safe operating speeds consistent with similar NCDOT roadway facilities. The design shall be in accordance with the *2004 AASHTO A Policy on Geometric Design of Highways and Streets*, *NCDOT Roadway Standard Drawings (July 2006)*, *NCDOT Roadway Design Manual (2002)*, *NCDOT Roadway Design Policy and Procedure Manual*, *Roadway Design Guidelines for Design-Build Projects*, *NCDOT Standard Specifications for Roads and Structures (July 2006)*, and the *AASHTO Roadside Design Guide 2002*. If the *NCDOT Roadway Design Manual*, the *2004 AASHTO A Policy on Geometric Design of Highways and Streets*, the *NCDOT Roadway Standard Drawings (July 2006)* and/or any other guidelines, standards or policies have desirable and/or minimum values, the facility will be designed for the desirable values. Similarly, in case of conflicting design parameters in the various resources, the proposed design shall adhere to the most conservative values.

The proposed new location facility will be a six lane divided section with a variable width median designed and constructed to meet a 70 miles per hour design speed for a rolling urban freeway. Both inside and outside usable shoulders for the Western Wake Freeway shall be 14 feet, of which 12 feet will be paved. Both inside and outside shoulders will have milled rumble strips for safety. Triangle Parkway will utilize 12 foot usable shoulders due to lower projected truck traffic. The 12 foot inside paved shoulders shall be full depth. The outside shoulder will provide two feet of full depth pavement sloped with the travel lane and eight feet of partial depth pavement. For both sections, one lane ramps shall provide a minimum of 16 foot lane width with all ramps utilizing a 4 foot inside and outside full depth paved shoulders. One lane loops shall provide a minimum 18 foot lane width with

a 4 foot wide full depth paved outside shoulder and inside of loops shall be a 2'-6" curb and gutter edge.

Construction of the Northern Wake Expressway was completed and opened to traffic in July 2007. This concrete roadway is a six-lane divided section with a 60 foot median. The inside shoulders were constructed as a future travel lane. The outside shoulders are 14 feet in width, of which 12 feet are full-depth concrete pavement.

The design and construction of all local cross streets (-Y- Lines), ramps, service roads and cul-de-sacs, providing access, widening and improvements shall be of sufficient length to tie to existing based upon the current guidelines and standards. The -Y- Lines shall be designed for the appropriate speed based upon the functional classification and a speed consistent with the currently posted speed limits.

NCTA plans to obtain the permits required for the project. Any required coordination with the environmental agencies, approvals from the environmental agencies, public involvement and / or permit modifications resulting from a variation in the NCTA's proposed design and / or construction method, or utility relocation / construction shall be the sole responsibility of the Design-build teams and will be coordinated with NCTA. NCTA will not allow any contract time extensions associated with obtaining a permit modification, public involvement or additional agency coordination / approvals.

B. Pavement

Paving limits shall satisfy the requirements of the approved project plans. Alternate pavement designs have been performed by NCDOT/NCTA and are presented in the pavement management scope of work in each roadway design-build projects Request for Proposals: Volume 2. The pavement design is expected to consist of the following:

A. Western Wake Mainline: (17.75" concrete based pavement section)

13.00" doweled jointed concrete with 15' uniform joint spacing;
3.00" B25.0B permeable asphalt base course;
1.25" SF 9.5A asphalt surface course for drainage membrane;
Subgrade stabilization;

B. Western Wake inside and outside shoulders: (only single option permitted for project)

Option 1: 13.5" total depth asphalt based pavement section;
Option 2: 11" total depth concrete based pavement section;
Option 3: 15.25" total depth roller compacted based pavement section;

C. Edge of Paved Shoulder to face of guardrail:

6" aggregate base course with one lift of asphalt surface course;

D. Triangle Parkway Mainline: (asphalt only based pavement section)

Three Alternates with varying total depth of 14.5" to 18.5";
Subgrade stabilization;

- E. Triangle Parkway mainline shoulders:
 - Inside Shoulder: Same as mainline pavement;
 - Outside Shoulder:
 - Full depth: same as mainline pavement;
 - Partial depth: Three asphalt based alternates with varying total depth of 9.5” to 18.5”;

- F. Edge of Paved Shoulder to face of guardrail:
 - 6” aggregate base course or 3” of B25.0 with one lift of asphalt surface course.

- G. –Y-Lines:
 - All are site specific, asphalt based pavement sections with varying total depths of 8” minimum to 25.5” maximum.

To document a critical component of the concrete pavement, the Design-build teams will be responsible for providing a calibrated magnetic imaging device that will record dowel bar location and alignment at a minimum set number of joints. The device will be used as process control and allow the contractor to make the necessary adjustment to ensure the dowels are placed in the correct location in all future pours.

The Design-build teams shall be responsible for design of continuous shoulder drains and outlets for the mainline. The shoulder drain design and outlet locations are to be submitted to the NCTA for review and acceptance. The shoulder drain design shall be in accordance with Standard Drawing 816.02 of the NCDOT- Roadway Standard Drawings.

C. Bridge and Wall Structures

Bridge design and construction criteria will conform to the most current versions of the AASHTO “Load and Resistance Factor Design (LRFD) Bridge Design Specification”, NCDOT “Structure Design Manual” (including policy memos) and NCDOT Bridge Policy Manual. Design Live Load for structures and ramp structures will be HS25 loading. Construction and materials shall be in accordance with NCDOT Standard Specifications for Roads and Structures (July 2006), NCDOT Structure Design Unit Project Special Provisions, NCDOT Structure Design Unit Standard Drawings and any special provisions included in the project requirements. Bridge materials will be non-prestressed cast-in-place concrete, prestressed precast concrete, or steel, based on the design-build teams design and subject to NCTA approval. The design-build team shall submit structure recommendations and design criteria for NCTA, NCDOT and FHWA review and acceptance prior to submittal of the preliminary plans.

D. Hydraulics

All designs shall be in accordance with criteria provided in the North Carolina Division of Highways “Guidelines for Drainage Studies and Hydraulics Design-1999”, the addendum “Handbook of Design for Highway Drainage Studies-1973”, NCDOT “Best Management Practices for Construction and Maintenance Activities–2003” and North Carolina Division of Highways Hydraulics Unit web-site:

<http://www.ncdot.org/doh/preconstruct/highway/hydro/>

For pipes up to 48” in diameter and not located under travelways or curb and gutter, Type S or Type D, HDPE pipe meeting the requirements of AASHTO M294 or Aluminized Corrugated Steel Pipe, Type IR meeting the requirements of Article 1032-3(A)-7 of the NCDOT Standard Specifications may be used instead of Reinforced Concrete Pipe, Class III. Installation of both alternate pipe materials shall conform to the requirements of Section 300 of the Standard Specifications for Method A, except that the minimum cover shall be at least 12 inches.

NCTA will provide the following material:

- USACE Individual Section 404 Permit and NCDENR-DWQ Section 401 Water Quality Certification for Western Wake Freeway and Triangle Parkway.

The Design-build team shall be required to do the following:

- Hold a pre-design meeting with the NCTA and NCDOT Hydraulic Review Engineer upon acceptance of the Preliminary Roadway Plans.
- Design and install all storm drainage systems within the project limits.
- Provide Stormwater Management Plan using Best Management Practices.
- Provide Culvert or Bridge Survey Reports for structures revised in any way from the provided information.
- Provide any necessary permit modification drawings and calculations.
- Ensure all County ordinances are observed.
- Analyze existing culverts and cross pipes adjacent to the project and within existing ROW. Replace any deficient (structurally and / or hydraulically) pipes and / or culverts.
- Prepare Pre and Post Analysis for increases in discharge and take appropriate action in accordance with the above guidelines to make sure additional drainage is adequately handled.
- Prepare CLOMR packages for all crossings that deviate in any way from those provided. No work shall begin in areas in FEMA floodplains until an approved CLOMR is obtained.
- Prepare LOMR packages for any regulated streams impacted by the design for the NCTA’s submittal to FEMA after project is completed.
- Use pipes with minimum 18” diameter for open-ended pipes and minimum 15” diameter for pipes in enclosed drainage systems throughout the project.

E. Lighting

Interchange and toll plaza lighting systems will be installed to promote safety at all major decision points along the Triangle Expressway project corridor. The design criteria for all illumination systems will conform to the latest edition of the AASHTO “*Roadway Lighting Design Guide, 2005*” and amended by the NCTA’s specific requirements. The design will be performed as part of the

design-build contract. All lighting will be reviewed by NCTA and NCDOT for conformance with the project requirements.

Continuous roadway lighting is not required on the Triangle Expressway project and will not be installed. Complete interchange lighting will be installed at the NC 55 Bypass ramps, US 1, Old US 1, US 64, Green Level Road, NC 55, NC 540, Hopson Road/Davis Drive, and I-40 ramps. Lighting design will illuminate all ramps, roadway intersections, acceleration/deceleration lanes, and weave/merge locations, unless otherwise noted, to address safety issues. To keep traffic flowing smoothly, the express ORT (open-road tolling) lanes will not be lighted; this approach will de-emphasize the tolling equipment where no driver decisions are required.

Standard design documents have been developed by NCTA and will be utilized for the project. Lighting systems will be comprised of two main types of equipment – high mast lighting standards (poles of up to 100' tall with a ring of 4 to 12 luminaries), and pole top lighting standards (poles of up to 45' tall with a one or two full-cutoff luminaries without arm and at zero tilt). Conventional lighting standards with a cobra head luminary and arm will not be used, as the pole top luminaries can be more easily maintained without lane closures. Design-build contractors will design the systems for economy of installation and maintenance. High mast lighting will be used wherever possible. Pole top lighting standards will be used where required to keep light levels outside of ROW. At a minimum, pole lighting will be utilized where ROW does not allow for standard installation of high mast lighting, and where high mast lighting standards are not found to be the most economical equipment.

F. Signing

Distinctive and adequate signing is a necessity for major highway facilities. Signs will provide a means by which the user can readily be guided throughout the Triangle Expressway corridor. Large, legible, directional signage, as well as regulatory and warning signs, will be provided. Signs along existing intersecting highways and thoroughfares will be modified as necessary to provide clear directions to the Triangle Expressway. Special signing in advance of the toll plazas will be used to inform drivers of the various payments options at toll lanes.

The Signing Plans shall be prepared by the design-build teams in accordance with the latest edition of the 2003 Manual on Uniform Traffic Control Devices (MUTCD), the 2004 “NC Supplement to the MUTCD”, NCDOT Standard Specifications for Roads and Structures (July 2006), the NCDOT Roadway Standard Drawings (July 2006) for the design and development of signing plans, the latest Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals published by AASHTO, “Guidelines for Preparation of Signing Plans for Design-Build Projects”, and the “Design-Build Submittal Guidelines”. NCTA toll collection signing standards have been developed and will be utilized by the design-build teams for these specific signs. All electrical installations and coordination are the responsibility of the design-build teams and must meet NEC, State, and local codes. All electrical / electronics equipment and devices must be UL approved and listed. NCTA will provide the design-build team with a Signing Conceptual Map of the toll road corridor for the design-build team's use in developing its signing plan.

In addition to the required signage, NCTA will provide mile markers every 2/10 of mile on the Triangle Expressway. Each mile marker location shall have two mile markers mounted back to back on one u-post to permit easy visual identification and promote safety. As part of the environmental

commitments, a minimum of four historical markers for the Green Level Historic District will also be provided.

All overhead sign assemblies shall be designed, fabricated, and installed by the design-build teams and shall meet all NCDOT and NCTA requirements. The wind speed for the overhead sign assembly designs is 90 miles per hour.

The design-build team shall use Type IX reflective sheeting for the legends (text) and background on all overhead signs. No overhead sign lighting is required for advance guide, toll related signing or exit directional overhead signs.

NCTA has structured the construction of the facility to reduce the possibility of rework from multiple contractors while permitting heavy construction to be performed by the main roadway design-build teams. Intelligent transportation system supports will be provided by the highway design-builders while the digital message signs will be provided by the ITS design-build team.

G. Signals

The design-build teams shall design and prepare plans for the traffic signal installations. This work shall include, but not be limited to, the preparation of Traffic Signal Plans, Electrical and Programming Details, Utility Make-Ready Plans, Communications Cable & Conduit Routing Plans and Project Special Provisions. These plans shall be prepared in accordance with the “*Design-Build Submittal Guidelines*” and the “*Guidelines for Preparation of Traffic Signal & Intelligent Transportation System Plans on Design-Build Projects*” available on the NCDOT Design-Build website.

The Design-build team shall be responsible for providing the safest and most economical design for the public. The Design-build team shall be responsible for ensuring that all plans and designs conform to the current design standards of the NCDOT Intelligent Transportation Systems & Signals Unit and NCTA. All plans and associated design material and specifications must be reviewed and approved by NCTA before installation.

This work consists of installing ten new traffic signals: one new signal at NC 55 Bypass and eastbound ramps of Triangle Expressway, one new signal at Kelly Road and US 64 eastbound ramp, two signals at Green Level Road at Triangle Expressway Ramps (Northbound and Southbound), two new signals at Old US 1 at Triangle Expressway Ramps (Northbound and Southbound), two new signals at Davis Drive and Triangle Parkway (Northbound and Southbound Ramps), and two new signals at Hopson Road and Triangle Parkway (Northbound and Southbound Ramps). Seven existing traffic signals will be revised: two signals at NC 55 and Triangle Expressway Ramps (Northbound and Southbound), NC 55 Bypass at Technology Drive, Davis Drive at Kit Creek Road, Davis Drive at Hopson Road, NC 54 at T.W. Alexander Drive, and NC 55 Bypass and Old Smithfield Road. Fiber Optic Communications Cable (24-fiber) will be utilized to interconnect the traffic signals. The project will cross a railroad facility and the Design-build team will be responsible for pursuing any necessary agreements with any railroad facility that the communications cable would traverse.

H. Landscape and Aesthetics

Pursuant to NCTA desires and commitments, landscaping and special aesthetics treatments will be provided along the Triangle Expressway corridor and shall account for a combined total of approximately 3% of the total construction cost. The design theme for the corridor has been provided via aesthetic guidelines to the design-build teams. The historical and natural features of the area (including building patterns, style, colors, native stone, and native plants) are being selected to support a design image that should reflect the surrounding natural environment.

The Triangle Expressway will have a distinctive aesthetic character, making it a distinguishable road within North Carolina. The NCTA's purposes in setting a high aesthetic standard for the facility are to:

- Encourage the attraction of initial users, by giving the road a distinguishable "brand";
- Provide an enhanced travel experience to users who will be paying to use the road; and
- Create a community amenity with the potential to attract public support and possibly some financial contribution for landscape, amenities, maintenance and public art.

The Aesthetic Design Guidelines, including architectural guidelines for the toll plazas, were developed by the GEC, working with NCTA staff and Board members. An architectural review committee of community representatives was consulted to assure that the design is appropriate for the context in which the Triangle Expressway will be located. The style and detailing of the aesthetic themes was inspired by historic North Carolina civic buildings, particularly the State Capitol Building in Raleigh and Tryon Palace, the seventeenth-century North Carolina Colonial Governor's mansion located in New Bern. Details and materials from these buildings was adapted in a style that is compatible with the contemporary Research Triangle Park and rapidly growing communities of Cary, Apex, Holly Springs and Wake County.

The upgraded design is concentrated around the major interchanges and cross street bridges. Sign structures may also receive special treatment. Public art opportunities, if they are included, are anticipated to be paid for by municipalities or other organizations, and are not part of the design-build contracts.

Consistency of the design motif throughout all of the toll plaza, bridge, abutment, bent, sign structure and other roadway elements is essential to the success of the design. Materials and techniques are simple, and are in common use on freeway projects throughout the U.S. The architectural style is achieved with cast-in-place concrete textured with form liners, and with pre-cast concrete panels either with texture matching the cast-in-place elements or with embedded thin face brick. Mechanically-stabilized earth (MSE) walls with texture matching the cast-in-place elements are used for retaining walls.

Landscape is included in the Aesthetic Guidelines to demonstrate the anticipated landscape approach to the design-build team. The NCTA intends to award a separate landscape contract. The design-build team will need to protect existing vegetation as shown in the prototypical locations, and to allow for the types of planting schemes shown in the guideline examples.

The result of a conscientious application of these aesthetic design guidelines will be a road that is distinctive as a NCTA facility, will provide an enhanced driving experience for its users, and will be an amenity for its surrounding communities. The design approach will develop facilities and features

that fit into the physical setting and preserve the aesthetic, historic, and environmental resources of the community, while maintaining safety and mobility.

I. Right of Way

Right of way (ROW) limits have been established based on construction limits from preliminary plans for bridges, roadways, drainage, and interchanges, to accommodate the Triangle Expressway project. These limits will also permit proper maintenance and operation.

NCDOT has already acquired 23 parcels in advance acquisitions. The remainder of the ROW will be acquired prior to or during the design-build phase. The NCTA has been granted the statutory authority to acquire land, real estate easements, and other interests in real estate by negotiated purchase and by eminent domain for construction, operation, and maintenance of the facility. Once purchased, the ROW will be owned by NCDOT and leased back to NCTA via long term lease (See Project Specific Agreement for Triangle Expressway – Appendix D).

If the design-build teams require additional ROW, all environmental clearances, and the costs and time related to acquiring the additional ROW will be entirely the responsibility of the design-build team.

J. Utility Adjustments

To facilitate utility coordination for the project, NCTA has employed TBE Group (TBE) and Mulkey Engineers and Consultants (Mulkey). TBE is responsible for the coordination of the relocation of all utilities and will draft all utility agreements for the Western Wake Freeway. Mulkey is performing the same tasks for the Triangle Parkway section. The design-build team will not commence work until the utility coordinator has made arrangements with the utility company to protect against damage to the public or utility owner. Any damage by the design-build team will be the responsibility of the design-build team. The design-build team shall confirm all utility locations prior to construction. If the construction of the project does impact any utilities, then the Design-build team is fully responsible for managing these utilities in accordance with this scope of work.

In the event that the design-build team is responsible for the preparation and coordination of the utility impacts as a result of their final design, then the following guidelines shall be followed as listed below:

- (A) *NCDOT Utility Manual - Policies & Procedures for Accommodating Utilities on Highway Rights of Way*
- (B) *Federal Aid Policy Guide- Subchapter G, Part 645, Subparts A & B*
- (C) *Federal Highway Administration's Program Guide, Utility Adjustments & Accommodations on Federal Aid Highway Projects*
- (D) *NCDOT Construction Manual Section 105-8*
- (E) *NCDOT Right of Way Manual - Chapter 16 Utility Relocations*
- (F) *NCDENR Public Water Supply - Rules governing public water supply*
- (G) *NCDENR Division of Water Quality - Title 15A - Environment and Natural Resources*

Any cost for utility relocations shall be the responsibility of the design-build team if the utility demonstrates compensable interest.

K. Intelligent Transportation Systems

The Triangle Expressway project will include Intelligent Transportation Systems (ITS) infrastructure and operational systems to support overall management and operations of traffic flow along with timely response to incidents. The ITS deployment will complement similar NCDOT activities on Interstate highways in the region, and will meet or exceed the State's ITS performance requirements. These items will be included under a separate contract, with the exception of the following elements, which shall be installed within the primary roadway design-build contracts:

- Conduit duct bank system with manhole vaults located at the appropriate spacing along the roadway, supporting the preliminary communications scheme as identified in the preliminary plans.

The above construction will support the fiber communication network design as discussed below.

The future ITS installations are to be included in a separate specialized design-build contract and are anticipated to include the following elements:

- Approximately 64 Microwave Vehicle Detector (MVD) locations including approximately 1-mile intervals in each direction on the mainline and one on each ramp.
- Approximately 14 CCTV camera locations at approximately 1 mile spacing sufficient to provide full viewing of the Expressway and of the interchanging cross roads. Several interchanges are large enough that at least two cameras may be required to cover the area, depending on final mounting height.
- 11 Dynamic Message Sign (DMS) locations in advance of key decision points relative to major cross routes or alternative routes. Three signs are to be installed by NCDOT under separate projects, 2 of which may be appropriate for "takeover" by NCTA based on the nature of information which may be provided.
- One Environmental Sensing Stations (ESS) are to be provided for pavement monitoring (moisture and temperature) along the corridor.

The communications network will support an overall ITS and toll system deployment framework.

L. Fiber Communication Network

The Triangle Expressway project will include two parallel fiber optic backbone communication network (FON) to provide separate dedicated communications for the toll systems, and the intelligent transportation system (ITS) to be deployed. The FON will be configured to connect toll plazas, ITS devices and NCTA and NCDOT traffic management centers. The outside plant system will include a conduit duct bank system with manhole vaults located at the appropriate spacing along the roadway. Electronics and computer equipment will be provided at the NCTA control center and

at the mainline and ramp toll plazas for connections to the communications and toll collections systems networks.

VII. TOLL COLLECTION OPERATIONS

A. Operations Plan

Toll collection operations consist of the collection of the correct toll amounts from patrons in accordance with the established toll rate schedule, accounting of the toll revenue, transfer of the funds into banks, and documentation of the toll collection activities. The Triangle Expressway project will be exclusively operated as a cashless system. Toll collection methods will include payment via toll transponder or video toll. Video tolling options will include either prepaid registration of license plate information or post payment of tolls by those utilizing the facility with unregistered vehicles. Initial studies included the use of automated cash machine (ACM) lanes located in widened areas to the outside of the mainline, whereas dedicated electronic toll collection (ETC) lanes would have been provided on the through lanes. However, the initial cost of providing on-site payment combined with safety concerns, and the limited patronage of the ACM's resulted in the decision to utilize only ETC and video and therefore no on-road cash collection.

Video capture equipment will be installed in all lanes and those customers who do not choose to pay via a transponder or as part of the registered vehicle video toll process will be pursued for payment in accordance with established NCTA policies, as well as North Carolina law for use of the turnpike. Senate Bill 1697 was ratified by the North Carolina General Assembly on July 18, 2006 that will require payment of outstanding turnpike tolls and applicable fees or fines prior to vehicle registration renewal. (Senate Bill 1697 is included in Appendix E) However, it should be noted, Article IX, Section 7 of the State Constitution mandates that the clear proceeds from fines issued for any breach of the state penal laws shall be appropriated for the free county public schools. Recently, a ruling established a maximum of 10% of the fine may (General Statutes 115C-437) be kept for administrative costs. This would permit recovery of the toll from violators but only a small portion of the fine could be used to offset the collection process. This argument was based upon the opinion that the majority of the cost involved was for enforcement and not collection. NCTA plans to set toll rates appropriately to recover the cost of collection under the different payment methods.

The basic components for any toll collection system are the toll collection systems, the customer service center / violation processing center, and overall operations and asset maintenance. Implementation of the toll collection system for the Triangle Expressway is being developed considering the requirements of the NCTA, and the necessary and practical relationship and interface with other toll projects being developed.

B. Toll Collection Systems

The Triangle Expressway project will use a computerized prepaid toll collection system, including ETC that utilizes automatic vehicle identification (AVI) and video toll collection utilizing cameras with optical character recognition (OCR) capability. It is intended that the system will ultimately be fully interoperable with all North Carolina toll roads and potentially beyond so that customers from other locales can use the NCTA's system and vice versa, without having to have multiple transponders on their vehicles or multiple accounts. NCTA has initiated a process for the selection

of a toll collection system integrator for the design of the complete toll collection system for NCTA's complete system.

As described, the Triangle Expressway project will exclusively utilize:

Electronic and Video Toll Collection System: ETC includes a system that automatically recognizes a vehicle, using a valid encoded transponder, and records the vehicle passage through the toll system, thereby collecting the toll from a previously established account. Alternatively, the system will also support video toll collection of registered or unregistered users. Registered video toll collection is primarily priced for the occasional user who would not benefit significantly from the transponder option. The patron establishes a pre-paid account and provides license plate information for users authorized to have toll transactions deducted from the account. This system function will capture and image of the license plate of every vehicle that does not travel with a valid transponder. Processing of the images that are not registered account holders will be handled via post-transaction by a video toll and violations processing center. Images not registered to a valid account or post-paid within a configured period after the transaction will be handled via a violations enforcement process.

There will be four main mainline toll collection areas on the Triangle Expressway project. These areas will include the ETC and video system which will consist of overhead equipment gantries over the mainline.

Additional ramp toll plazas will be located at Hopson Road/ Davis Drive interchange, Northern Wake Expressway entrance/exits from Triangle Parkway entrance/exits, US 64 northbound entrances/exits, and Old US 1 southbound entrances/exits (see Figure 2). The ramp toll plazas will utilize similar overhead structures for ETC and video capture.

C. Customer Service Center / Violation Processing Center

The Customer Service Center (CSC) and the Violation Processing Center (VPC) will be co-located in a facility offsite. NCTA will procure a private sector firm, through an independent procurement process, to provide a statewide CSC and VPC for ETC toll transponder sales / account administration and for violation enforcement. NCTA personnel will oversee the contract and provide audit and accounting for these operations. NCTA will set tolls based on the rate structure requirements for ETC and video (registered and unregistered) tolls to cover the costs of toll collection administration as well as costs for administering the Violation Enforcement System.

NCTA anticipates that toll collection enforcement services will be performed by the VPC as part of the contracted services. Initially, on-site toll collection enforcement will be maximized to minimize toll violations for the new facility; however, enforcement is expected to be reduced with continued operation. Actual violation rates experienced during operations will dictate level of effort for necessary enforcement.

D. Toll Collection System Operations and Maintenance

The NCTA currently anticipates that operations and maintenance will be accomplished using a combination of private sector and NCTA services. NCTA will procure a private sector firm, through

an independent procurement process, to provide the toll collection system operations and maintenance, with NCTA personnel providing oversight of the contract and audit and accounting for traffic and revenue.

Operation of the toll collection system equipment will be contracted out to the toll collection system operator, a contract toll collections service provider, on an annual or other time-frame basis. All preventive, predictive and corrective maintenance for the toll collection system will be performed under a separate contract with the NCTA's toll systems integrator selected for the design and installation of the toll collection system.

These contracts will be administered by the NCTA staff. The maintenance requirements include 24-hour, seven days a week on-call maintenance services. Minimum response times, depending on time of day and on priority of the malfunction, will be specified. The toll collection system will be required to generate its own system malfunction and maintenance messages, which will be used in conjunction with toll collection staff reports, to alert maintenance staff of problems. The mandate of this program is to maintain the capability of the system to collect tolls 24 hours per day, 365 days per year.

The toll systems integrator also will be required to utilize a Maintenance On-Line Management System (MOMS) to ensure that toll collection equipment is reliably maintained. The purpose of the MOMS subsystem is to manage and report all maintenance and maintenance support activities within the toll collection system. All toll collection equipment will be monitored for failure and all alarms reported via the MOMS. Predictive and preventive maintenance activities will be scheduled via the MOMS and these activities must be performed on a timely basis.

VIII. ROUTINE MAINTENANCE

The NCTA is mandated by State law and the terms of the Trust Agreement to maintain a safe highway facility in sound condition. An effective maintenance policy will contribute significantly to ensuring a safe highway for system users, as well as preserving the investment. Routine maintenance for the new facilities is anticipated to include, but not be limited to, maintenance of the following items:

- Concrete and asphalt pavement surfaces
- Bridge deck, superstructure, substructure
- Pavement markings and signage
- Mowing and landscaping
- Snow and ice removal
- Drainage, stormwater systems and slopes
- Roadside protection (guardrail, barrier, attenuation)
- Lighting appurtenances
- Tolling and ITS equipment
- Litter and obstruction removal
- Building infrastructure
- Traffic control
- Emergency maintenance services

The maintenance contractor will be responsible for preparing an annual operations and maintenance plan and budget to be reviewed and approved by the NCTA. The contractor will be required to perform maintenance activities in a safe and efficient manner with a minimum effect on traffic operations.

During the initial years of operation, the new facility should require relatively minor upkeep. However, as the many elements of the facility are subjected to aging and wear increasing amounts of maintenance and rehabilitation will be required.

IX. PROJECTED OPERATIONS AND MAINTENANCE COSTS

The estimate of overall operations costs includes administration, customer service, violation processing, utilities, insurance, professional services, and other costs associated with the operation of Triangle Expressway. Maintenance costs include routine maintenance activities and the repair and rehabilitation program.

Baseline costs have been developed for the initial full year of operation using available cost data for certain administrative costs, as well as data available to NCTA for contracted maintenance services on similar roadway facilities. In addition, the cost projections were adjusted to reflect anticipated organizational changes and changes to the methods of operation to the extent possible. These baseline costs have been projected over a 40 year period and are presented in Table 1.

The rate of increase in operation and maintenance expenses assumes a rate within the range typical to the toll road industry. It is what can reasonably be anticipated in view of the natural aging and wear of the Triangle Expressway subject to the traffic and climatic conditions of the region. It is our opinion that the costs projected for the operation and maintenance of the Triangle Expressway are reasonable estimations of future costs assuming that the Triangle Expressway is operated and maintained under procedures and practices typical for the toll road industry. Sound management practices and an effective program of inspection and maintenance will be essential in maintaining the facilities in good repair and working condition.

In addition to the costs projected within, the NCTA will also have an arrangement with the NCDOT for reimbursement of certain administrative costs. This funding source is anticipated in addition to revenue sources and provides the majority of the cost coverage for the NCTA's administrative staff, overhead and direct expenses. If at any point in the life of the NCTA should this funding source be altered, the overall operations and maintenance costs projections may require re-evaluation to insure sufficient coverage to maintain the overall operations and financial responsibilities.

Table 1 - Projected Operations and Maintenance Expense*

Year	Administration / Operations	CSC/VPC Operations	Infrastructure Utilities and Insurance	Professional Services	Routine Maintenance Program	Repair & Rehabilitation Program	Total
1	694	1,807	696	125	733	492	4,547
2	1,444	2,775	713	2,350	1,719	507	9,508
3	1,100	4,377	731	1,361	2,846	522	10,938
4	979	5,040	749	871	3,063	538	11,241
5	947	5,704	768	893	3,281	554	12,147
6	985	6,118	787	915	3,379	1,009	13,194
7	1,024	6,538	807	938	3,481	588	13,376
8	1,065	7,000	827	962	3,585	605	14,045
9	1,108	7,511	848	986	3,693	623	14,768
10	1,152	7,455	869	1,010	3,803	642	14,932
11	1,198	7,958	891	1,036	3,918	23,123	38,124
12	1,246	8,512	913	1,062	4,035	681	16,450
13	1,296	9,125	936	1,088	4,156	702	17,303
14	1,348	9,801	959	1,115	4,281	723	18,227
15	1,402	10,360	983	1,143	4,409	744	19,042
16	1,458	10,779	1,008	1,172	4,541	767	19,726
17	1,516	11,223	1,033	1,201	4,678	790	20,441
18	1,577	11,693	1,059	1,231	4,818	813	21,192
19	1,640	12,192	1,085	1,262	4,963	838	21,980
20	1,706	12,201	1,112	1,293	5,111	863	22,287
21	1,774	12,643	1,140	1,326	5,265	42,768	64,916
22	1,845	13,112	1,169	1,359	5,423	915	23,823
23	1,919	13,594	1,198	1,393	5,585	943	24,633
24	1,995	14,095	1,228	1,428	5,753	971	25,471
25	2,075	14,609	1,258	1,463	5,926	1,000	26,332
26	2,158	15,141	1,290	1,500	6,103	1,030	27,223
27	2,245	15,693	1,322	1,538	6,286	1,061	28,145
28	2,334	16,266	1,355	1,576	6,475	1,093	29,101
29	2,428	16,862	1,389	1,615	6,669	1,125	30,089
30	2,525	17,449	1,424	1,656	6,869	1,159	31,082
31	2,626	18,028	1,459	1,697	7,075	48,738	79,624
32	2,731	18,628	1,496	1,740	7,288	1,230	33,112
33	2,840	19,247	1,533	1,783	7,506	1,267	34,177
34	2,954	19,887	1,572	1,828	7,732	1,305	35,277
35	3,072	20,548	1,611	1,873	7,964	1,344	36,412
36	3,195	21,233	1,651	1,920	8,202	1,384	37,586
37	3,323	21,940	1,692	1,968	8,449	1,426	38,798
38	3,455	22,671	1,735	2,017	8,702	1,468	40,049
39	3,594	23,427	1,778	2,068	8,963	1,512	41,341
40	3,737	24,208	1,823	2,120	9,232	1,558	42,677

* All costs in \$1000's future year dollars and estimate does not include administrative costs funded by NCDOT.

X. REPAIR AND REHABILITATION PROGRAM

In addition to being responsible for building the Triangle Expressway, operating and maintaining the facility, paying off its bond indebtedness, and operating with a positive cash flow, the NCTA is also required to protect, preserve and maintain the properties it will construct. In order to protect the investments in its properties, amounts of money are to be allocated annually to a Repair and Rehabilitation Account established in connection with the issuance of bonds to finance the Triangle Expressway project. Amounts in the Repair and Rehabilitation Account can be disbursed only for the purpose of paying for the cost of:

1. Unusual or extraordinary maintenance or repairs, maintenance or repairs not recurring annually, and renewals and replacements, including major items of equipment,
2. Repairs or replacements resulting from an emergency caused by some extraordinary occurrence, so characterized by a certificate signed by an Authorized Representative of the NCTA and filed with the Trustee stating that the moneys in the Revenue Fund and insurance proceeds, if any, available therefore are insufficient to meet such emergency, and
3. Paying all or any part of the cost of any capital improvement to the facility.

In light of the fact that the Triangle Expressway project will be an entirely new facility, covered in part by warranties for the initial operations under terms of the design-build contracts, deposit amounts shall be appropriate to meet the projected needs listed in Table 1. The projected amounts shall be reviewed on an annual basis by the NCTA in conjunction with the annual inspections and updated as appropriate to meet the needs of the preservation of the facility.

XI. ENVIRONMENTAL CONSIDERATIONS

The preliminary planning and development of the corridor, including the required environmental reviews, have been undertaken in accordance with the National Environmental Policy Act of 1969 (NEPA), Federal Highway Administration regulations, and the NCDOT rules and other applicable federal, state and local laws. Issues considered during the NEPA process include socioeconomic conditions in surrounding communities and environmental impacts such as water resources (wetland, streams, and ponds), air quality, traffic noise, traffic, cultural resources, federally protected species, community impacts and hazardous material sites.

The status of the various approvals and permits required for the corridor are outlined in the following status list.

Notes:

- All of the permits and approvals will be complete prior to awarding either of the two roadway design-build contracts or the three specialized construction contracts.

Permits and/or Approvals	Status
FEIS Re-evaluation of Western Wake Freeway	Complete - September 7, 2007
EA/FONSI on Triangle Parkway	Complete –July 29, 2008
Categorical Exclusion for Northern Wake Expressway Toll Plaza	Complete – August 26, 2008
U. S. Army Corps of Engineers 404 Permits Western Wake Freeway	Complete – April 22, 2008
Triangle Parkway	Complete – February 5, 2009
NC Department of Environment and Natural Resources 401 Water Quality Certification Western Wake Freeway	Complete - March 17, 2008
Triangle Parkway	Complete – November 25, 2008
Conditional Letter of Map Revisions (CLOMRs – FEMA) Western Wake Freeway (Section C only)	Complete - March 18, 2007
Triangle Parkway	Complete – August 20, 2008
NC Ecosystem Enhancement Program (Acceptance Of Wetland and Stream Mitigation Requirements) Western Wake Freeway	Complete - August 1, 2008
Triangle Parkway	Complete – February 24, 2009
Transportation Conformity Determination	Complete - June 29, 2007 Update expected June 15, 2009
CSX RR agreement on Western Wake Freeway	Anticipated one year from contract execution
NPDES Stormwater Permits	Complete – December 27, 2007

The project will provide a number of benefits to the Triangle region. While a project of this magnitude cannot be developed without some impacts to the environment, steps are being taken to avoid, minimize and mitigate those impacts to the greatest extent possible. Some of the steps being studied to protect the environment are listed below.

Stormwater: Stormwater drainage systems for the project will be designed in accordance with the requirements of the National Pollutant Discharge Elimination System (NPDES) program. The project will also utilize NCDOT’s Best Management Practices for the protection of surface waters during construction. Other design features such as vegetated berms and swales will be considered and incorporated into the roadway design where appropriate to mitigate any potential transfer of toxins or other nutrients into surface waters. In lieu of concrete pipes, grass-lined ditches will be used, where possible, to maximize nutrient and particulate removal. Detention and retention facilities will be utilized, as required, to maintain appropriate water discharge rates into existing tributaries. These measures will assist in the preservation of the existing ecosystem.

Wetlands and Streams: A rigorous evaluation was undertaken to avoid, minimize and mitigate the project's impacts on wetlands and streams. Mitigation will be required for all unavoidable impacts to jurisdictional wetlands and streams. Mitigation needs for the project will be provided through the North Carolina Ecosystem Enhancement Program's In-Lieu Fee Program. Bridges will be utilized where practical and feasible to span wetlands and streams.

Protected Species: The project will not result in the taking of any federally endangered or threatened species or jeopardize their continued survival. The project will comply with the Endangered Species Act of 1973 and other pertinent federal and state laws.

Air: The Triangle Area is in attainment status with a maintenance plan for ozone and carbon monoxide. The Durham-Chapel Hill-Carrboro and Capital Area MPOs have completed updating their 2030 Long Range Transportation Plans, Fiscal Years 2007-2013 Metropolitan Transportation Improvement Programs and the corresponding air quality transportation conformity determination to implement tolling considerations associated with the project. It is expected that the decrease in congestion of the surrounding roadway network (especially NC 55 and NC 54) due to the project will result in improved fuel efficiencies and reduced delay during peak hour travel times. Project level air quality analyses were completed for the project, including a Mobile Air Source Toxic (MSAT) analysis and carbon monoxide "hot spot" analysis. The project will comply with the State Implementation Plan (SIP) and will not violate EPA's National Ambient Air Quality Standards.

Noise: Traffic noise studies have been conducted as part of the environmental study process to identify impacted receptors and how best to mitigate potential traffic noise from the project. Noise walls will be constructed where feasible and reasonable. Five locations have been identified for noise wall construction, including one daycare facility, one elementary school and three residential neighborhoods. It is possible that additional locations may qualify for noise abatement. The final decision on noise abatement placement will be determined following completion of the Triangle Parkway Finding of No Significant Impact (FONSI) document. NCTA may also incorporate aesthetic treatment into the noise walls.

Hazardous Materials: The NCTA is ensuring that all state and federal laws will be strictly adhered to in the abatement of hazardous materials located on the project ROW, if encountered. The identification and remediation of these sites that would otherwise remain unidentified is of incalculable benefit to the environment.

Hazardous Spills: In areas with sensitive environmental concerns, the installation of hazardous spill basins will be considered. These facilities would be designed to help capture the spill of a tanker truck to prevent contamination from entering the stream, river or aquifer recharge system.

Human Environment: The NCTA will evaluate ways to integrate landscaping into the project design to promote visual continuity and to blend it into the natural landscape where feasible and reasonable. The design and construction of the project will also accommodate existing and planned bicycle and pedestrian facilities on secondary roads crossing the project where appropriate. NCTA is also working with the appropriate entities to mitigate impacts to the Green Level Historic District and the Feltonville Park.

Extensive coordination was conducted between FHWA, NCTA, NCDOT, and other governmental entities to develop environmental documents for the component projects of the Triangle Expressway. The formal approvals of the required documents are based on the planned construction limits associated with the Preferred Alternatives as presented in the documents. Additional environmental documents have been prepared by NCTA, or its representatives, during the planning phase of the

Triangle Expressway project to identify human and natural environmental impacts and to obtain environmental approvals, which specify mitigation requirements and recommendations.

The design-build team, with the support and oversight of the NCTA, shall be responsible for all coordination with governmental entities during the project. It shall be the design-build team's responsibility to obtain all amendments to NCTA provided environmental approvals – including permit modifications - for any design revisions. The design-build teams shall ensure compliance with the conditions and schedules set forth in approved environmental documents and permits.

XII. PUBLIC INVOLVEMENT

The NCTA has been involved in an extensive public information and outreach program since the early stages of the Triangle Expressway project. This effort has included attendance and presentations at numerous public meetings and with local governments and civic groups, along with preparation and distribution of brochures and information packets to provide information about the Triangle Expressway project. In addition, the NCTA will retain the services of a professional firm to provide the NCTA with marketing, advertising and public information services and advice regarding a public information campaign for marketing of toll roads. The focus of this public information and education campaign will be the development and implementation of a marketing plan for the sale and distribution of electronic toll tags to be used in conjunction with NCTA toll roads. The efforts will include research and market surveys to provide the NCTA advice and alternatives for its public information and education campaign; creation and implementation of a comprehensive public education and outreach campaign to increase knowledge, perception and understanding of the need for and benefits of the NCTA toll roads, including developing a strategy and content for print, television, radio and direct mail components of a public outreach campaign.

During the design and construction phases of the Triangle Expressway project, the public information and involvement program will maintain a high level of communication by informing and educating local government agencies, special interest groups, businesses, and the general public about the Triangle Expressway project status throughout the design and construction period. The design-build team will develop a Public Information Plan for the Triangle Expressway project that will provide the public with an opportunity for input, notify the public in advance of construction and potential impacts and demonstrate to the public that the Triangle Expressway project will be developed pursuant to a well-executed Public Information Plan.

XIII. TRIANGLE EXPRESSWAY PROJECT COSTS

The construction of Triangle Expressway, as discussed under the implementation section of this document, is to be completed using the design-build method of contracting. Based upon the segment characteristics, toll phasing and various other considerations, roadway construction is expected to be let in two contracts: 1) Triangle Parkway and Northern Wake Expressway; 2) Western Wake Freeway. In addition, three specialized contracts will go through a similar design-build process for: 1) landscaping; 2) intelligent transportation system integration; and 3) toll system integration.

A breakdown of the preliminary cost estimate for implementation of the Triangle Expressway project is presented in Table 2. The construction cost has been summarized for the five design-build projects. The two roadway construction contracts have been further described by listing primary item summaries. The three specialized contract costs are all inclusive – mobilization, construction, design, construction engineering and inspection, and contingencies are included in the one listed cost.

NCTA has reduced contractor project cost risk by performing a number of tasks associated with higher risks prior to the design-build process. Prior to advertisement, it is anticipated that the required environmental permits will be obtained and environmental mitigation costs in place. Furthermore, NCTA is expected to provide a fuel price adjustment for several major items provided in a fuel usage chart and price adjustments for asphalt binder to reduce contractor risk for these items. The design-build contracts will include incentives and liquidated damages for schedule variations from the expected substantial completion dates. Contingencies have been incorporated in the program budget which should be adequate to cover these uncertainties.

(Note: Prior to the completion of this report, the sealed construction price proposals were opened. The bid results and an updated project cost summary are presented in Appendix F).

Table 2 - Cost Estimate Summary

Item	Cost		
Design-Build Construction			
Segment	Triangle Parkway & Northern Wake Expressway	Western Wake Freeway	Total
Roadway	\$77,850,000	\$286,000,000	\$363,850,000
Structures	\$32,150,000	\$158,950,000	\$191,100,000
Drainage	\$5,440,000	\$15,980,000	\$21,420,000
Miscellaneous	\$12,980,000	\$38,330,000	\$51,310,000
Toll Structures & ITS Rough-In	\$7,400,000	\$10,110,000	\$17,510,000
Highway Contract Total	\$135,820,000	\$509,370,000	\$645,190,000
Landscaping D-B - all incl.	\$1,270,000	\$4,610,000	\$5,880,000
ITS D-B - all incl.	\$2,280,000	\$5,800,000	\$8,080,000
Toll Integration D-B - all incl.	\$5,900,000	\$7,700,000	\$13,600,000
Specialized Contract Total	\$9,450,000	\$18,110,000	\$27,560,000
Design-Build Contract Total	\$145,270,000	\$527,480,000	\$672,750,000
NCTA Costs			
Right of Way	\$24,950,000	\$202,750,000	\$227,700,000
Right-of-Way Negotiation	\$570,000	\$2,230,000	\$2,800,000
Subtotal	\$25,520,000	\$204,980,000	\$230,500,000
Utility Relocation	\$4,140,000	\$14,600,000	\$18,740,000
NCTA Construction Oversight	\$1,830,000	\$7,260,000	\$9,090,000
NCTA Administrative	\$1,320,000	\$3,580,000	\$4,900,000
Environmental Mitigation	\$2,410,000	\$8,380,000	\$10,790,000
D-B Stipends/Incentives/Fuel	\$2,640,000	\$4,780,000	\$7,420,000
Agency Planning	\$70,000	\$870,000	\$940,000
Subtotal	\$6,440,000	\$17,610,000	\$24,050,000
NCTA Total Costs	\$37,930,000	\$244,450,000	\$282,380,000
Project Segment Total Costs	\$183,200,000	\$771,930,000	\$955,130,000
Total Project Cost			\$955,130,000

XIV. CASH FLOW PROJECTIONS

Quarterly projections of cash flow required to construct the Triangle Expressway project are shown below in Table 3. Quarterly cash flows are based upon an NCTA expected construction sequence of the five design-build contracts to be utilized. The contracts will utilize a monthly payment based upon verified progress of work. Each design-builder team will submit a construction schedule and cash flow projection prior to start of work. If construction progress is slower than scheduled, payment will be made only for the amount of work actually accomplished in a given month.

Tolling is expected to be initiated with the completion of Triangle Parkway and Northern Wake Expressway 30 months following the financial closing date. Based upon the preliminary construction schedule, the system wide opening will follow approximately 12 months later, or 42 months following the availability of project funds. This will permit an interim phased toll operation of less than 12 months.

Table 3 - Cash Flow Summary

Quarter Following Financial Close	Estimated D-B Construction Draw	NCTA Construction Oversight	Right of way Purchase/Negotiation	Utilities	NCTA Administration*	Total
Y1 Q1	\$43,415,000	\$415,000	\$29,470,000	\$3,030,000	\$6,465,000	\$82,795,000
Y1 Q2	\$43,415,000	\$415,000	\$29,470,000	\$3,030,000	\$6,465,000	\$82,795,000
Y1 Q3	\$49,290,000	\$670,000	\$42,890,000	\$3,170,000	\$740,000	\$96,760,000
Y1 Q4	\$49,290,000	\$670,000	\$42,890,000	\$3,170,000	\$740,000	\$96,760,000
Y2 Q1	\$49,290,000	\$670,000	\$42,890,000	\$3,170,000	\$740,000	\$96,760,000
Y2 Q2	\$49,290,000	\$670,000	\$42,890,000	\$3,170,000	\$740,000	\$96,760,000
Y2 Q3	\$49,820,000	\$680,000			\$650,000	\$51,150,000
Y2 Q4	\$49,820,000	\$680,000			\$650,000	\$51,150,000
Y3 Q1	\$49,820,000	\$680,000			\$650,000	\$51,150,000
Y3 Q2	\$49,820,000	\$680,000			\$650,000	\$51,150,000
Y3 Q3	\$44,820,000	\$640,000			\$1,360,000	\$46,820,000
Y3 Q4	\$44,820,000	\$640,000			\$1,360,000	\$46,820,000
Y4 Q1	\$41,510,000	\$590,000			\$1,320,000	\$43,420,000
Y4 Q2	\$41,510,000	\$590,000			\$1,320,000	\$43,420,000
Y4 Q3	\$8,410,000	\$200,000			\$100,000	\$8,710,000
Y4 Q4	\$8,410,000	\$200,000			\$100,000	\$8,710,000
Total Cost	\$672,750,000	\$9,090,000	\$230,500,000	\$18,740,000	\$24,050,000	\$955,130,000

*NCTA Administration Cost includes general NCTA costs including project environmental mitigation costs, design-build stipends/incentives/fuel and agency planning costs.

XV. IMPLEMENTATION SCHEDULE

The schedule of construction for the design-build contracts is shown in Table 4 below.

Table 4 - Schedule of Construction Project Milestones

Event	Date
Triangle Parkway:	
D-B Advertisement	December 3, 2007
Award D-B Contract	Immediately following Financial Closing Date
Notice to Proceed for Construction	Immediately following Financial Closing Date
Open to Traffic	30 months following Financial Closing Date
Western Wake Freeway:	
D-B Advertisement	December 3, 2007
Award D-B Contract	Immediately following Financial Closing Date
Notice to Proceed for Construction	Immediately following Financial Closing Date
Open to Traffic	42 months following Financial Closing Date
Triangle Expressway Landscaping Project:	
Advertisement of Landscaping D-B	Anticipated Jan. 2010
Award Landscaping D-B Contract	Anticipated May 2010
Notice to Proceed for Landscaping Project	Anticipated May 2010
Completion of Landscaping Project	Six months following project opening
Triangle Expressway Toll System Integration:	
Advertisement of Toll System D-B	October 2, 2008
Award Toll System D-B Contract	May, 2009
Notice to Proceed for Toll System Project	Immediately following Financial Closing Date
Completion of Toll System Project	42 months following Financial Closing Date
Triangle Expressway Intelligent Transportation System:	
Advertisement of ITS D-B	January 15, 2009
Award ITS D-B Contract	September, 2009
Notice to Proceed for ITS System Project	September, 2009
Completion of ITS System Project	42 months following Financial Closing Date

Appendix A

Geometric Design Criteria

Triangle Expressway Project – Geometric Design Criteria

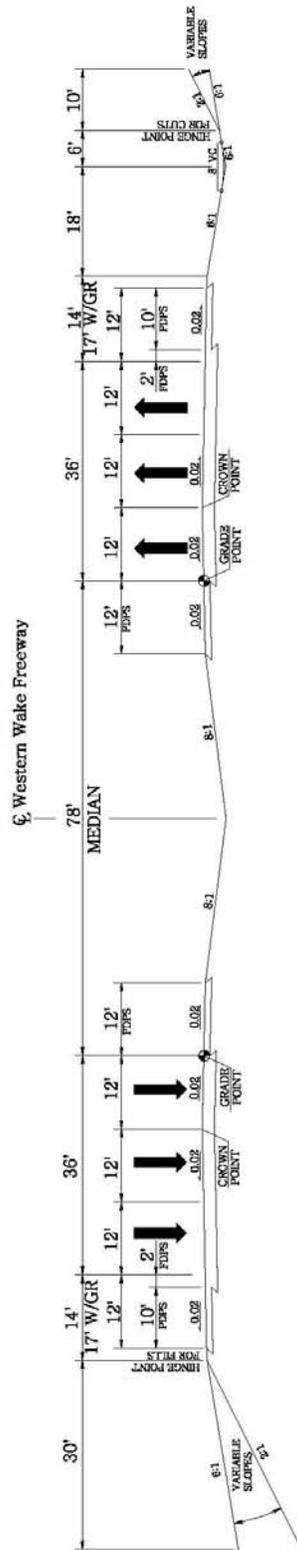
Design Factors	Alignment	Recommended Standards				
Classification	Mainline (-L- line)	Freeway (Interstate)				
Type of Terrain	All	Rolling				
Design Speed	-L- -Y- lines, Service road Flyovers Ramps Loops	110 Kph (70 mph) Variable: 60 to 110 Kph (40 to 70 mph) 90 Kph (55 mph) 60 to 100 Kph (40 to 60 mph) (Upper or Mid Range) 50 Kph (30 mph)				
Pavement Slopes	All	0.02				
Superelevation	-L- -Y- lines, Service road Flyovers Ramps and Loops Bridges	10% maximum 6% maximum 6% maximum 8% maximum 6% maximum				
Grades	-L- -Y- lines, Service road	4.0% maximum, 0.3% minimum 0.3% minimum				
	Freeways	Design Speed Max. Grade %	80 kph (50 mph) 5	100 kph (60 mph) 4	110 kph (70 mph) 4	
	Rural Arterials	Design Speed Max. Grade %	80 kph (50 mph) 5	100 kph (60 mph) 4	110 kph (70 mph) 4	
	Rural Collectors	Design Speed Max. Grade %	60 kph (40 mph) 8	80 kph (50 mph) 7	100 kph (60 mph) 6	
	Local	Design Speed Max. Grade %	60 kph (40 mph) 10	80 kph (50 mph) 8	100 kph (60 mph) 6	
	Loops	10% maximum, 0.3% minimum				
	Ramps	5.0% maximum, 0.3% minimum				
Shoulders		ADT	Total Shld. Width	Total Paved	FDPS	side
	-L- Western Wake	≥15,000	4.3 m (14') 3.7 m (12')	3.7 m (12') 3.7 m (12')	0.6 m (2') 0.0 m (0')	outside median
	-L- Triangle Parkway	≥15,000	3.7m (12') 3.7m (12')	3.0 m (10') 3.7 m (12')	0.6 m (2') 3.7 m (12')	outside median
	-Y- lines					
	Freeways	≥40,000 <40,000	3.7 m (12') 3.7 m (12') 3.7 m (12') 3.7 m (12')	3.7 m (12') 1.2 m (4') 3.0 m (10') 1.2 m (4')	3.7 m (12') 1.2 m (4') 1.2 m (4') 1.2 m (4')	outside median outside median
	Divided arterials and Collectors	≥40,000 <40,000	3.0 m (10') 1.8 m (6') 2.4 m (8') 1.8 m (6')	3.0 m (10') 1.2 m (4') 1.2 m (4') 0.6 m (2')	1.2 m (4') 1.2 m (4') 1.2 m (4') 0.6 m (2')	outside median outside median
	Two lane – two way	>8,000 >4,000 1,500 to 2,000 2,000 to 4,000	2.4 m (8') 2.4 m (8') 1.8 m (6') 2.4 m (8')	1.2 m (4') 0.6 m (2') turf turf	1.2 m (4') 0.6 m (2') turf turf	
	Ramps and flyovers		3.7 m (12') 4.3 m (14')	1.2 m (4') 1.2 m (4')	1.2 m (4') 1.2 m (4')	inside outside
	Loops		4.3 m (14') 3.7 m (12')		Curb & gutter 1.2 m (4')	inside outside

Design Factors	Alignment	Recommended Standards				
Ditches		ADT	Ditch Width	Front Slope	Max. Back Slope	
	-L, Ramps, Loops, Flyovers-		5.5 m (18')	6:1	2:1	
	-Y- lines					
	freeways		5.5 m (18')	6:1	2:1	
	arterials, collectors		5.5 m (18')	6:1	2:1	
	locals	> 4,000	5.5 m (18')	6:1	2:1	
		< 4,000	3.7 m (12')	6:1 (4:1 max.)	2:1	
Slopes	All	2:1 maximum (Fill), 3:1 maximum (Cut) or as directed by Soils and Foundations				
Median Width*	-L-	23.8 m (78')				
Vertical Clearance	-L-	5.0 m to 5.2 m (16'-6" to 17'-0") over asphalt paving (Freeways and Arterials)				
		5.2 m to 5.3m (17'-0" to 17'-6") over concrete paving (Freeways and Arterials)				
		4.6 m to 4.7 m (15'-0" to 15'-6") (over Local and Collectors)				
		7.0 m to 7.2 m (23'-0" to 23'-6") (over Railroads)				
Pavement Widths	-L-	3.7 m (12') lane				
	-Y- lines, Service road		Lane width for specified design year ADT			
		Design Speed	1,500 to 2,000	>2,000		
	Freeways		3.7 m (12')	3.7 m (12')		
	Rural arterials	60 kph (40 mph)		3.4 m (11')	3.7 m (12')	
		80-100 kph (50-60 mph)		3.7 m (12')	3.7 m (12')	
	Rural locals, collectors	60-80 kph (40-50 mph)		3.4 m (11')	3.7 m (12')	
		100 kph (60 mph)		3.7 m (12')	3.7 m (12')	
	Ramps and Flyovers	4.9 m (16') lane				
	Loops	5.5 m (18') lane				
Vertical Alignment		Design Speed	K _{min} Crest	K _{min} Sag		
		60 kph	11	18		
		40 mph	44	64		
		80 kph	26	30		
		50 mph	84	96		
		100 kph	52	45		
		60 mph	151	136		
		110 kph	74	55		
		70 mph	247	181		
	Horizontal Alignment		Design Speed	Min Radius	e _{max}	
-L-		110 kph (70 mph)	455 m (1,640')	0.10		
-Y- lines, Loops and Ramps		50 kph (30 mph)		80 m (250')	0.08	
		60 kph (40 mph)		125 m (465')	0.08	
		80 kph (50 mph)		230 m (750')	0.08	
		100 kph (60 mph)		395 m (1,205')	0.08	
		110 kph (70 mph)		500 m (1,820')	0.08	
		60 kph (40 mph)		135 m (510')	0.06	
		80 kph (50 mph)		250 m (835')	0.06	
		100 kph (60 mph)		435 m (1,340')	0.06	
		110 kph (70 mph)		560 m (2,050')	0.06	

Appendix B

Typical Sections

**Western Wake Freeway from NC 55 Bypass
near Holly Springs to NC 55**



PROPOSED 6-LANE DIVIDED SHOULDER TYPICAL SECTION

Appendix C

CAMPO Memorandum of Understanding

MEMORANDUM OF UNDERSTANDING

This MEMORANDUM OF UNDERSTANDING, dated May 16, 2007, is by and between the NORTH CAROLINA TURNPIKE AUTHORITY, a public agency created pursuant to Article 6H of Chapter 136 of the General Statutes of North Carolina (the "Authority"), and the NORTH CAROLINA CAPITAL AREA METROPOLITAN PLANNING ORGANIZATION, a public agency created pursuant to Article 3A of Chapter 136 of the General Statutes of North Carolina and Section 134 of Chapter 23 of the United States Code (the "MPO"). Terms not otherwise defined herein shall have the meanings given such terms in Article 6H of Chapter 136 of the General Statutes of North Carolina.

WHEREAS, Section 134(a) of Title 23 United States Code states:

"It is in the national interest to encourage and promote the development of transportation systems embracing various modes of transportation in a manner which will efficiently maximize mobility of people and goods within and through urbanized areas and minimize transportation-related fuel consumption and air pollution. To accomplish this objective, metropolitan planning organizations, in cooperation with the State, shall develop transportation plans and programs for urbanized areas of the State. Such plans and programs shall provide for the development of transportation facilities (including pedestrian walkways and bicycle transportation facilities) which will function as an intermodal transportation system for the State, the metropolitan areas, and the Nation. The process for developing such plans and programs shall provide for consideration of all modes of transportation and shall be continuing, cooperative, and comprehensive to the degree appropriate, based on the complexity of the transportation problems."; and,

WHEREAS, Chapter 136, Article 3A, Section 136-66.2(a) of the General Statutes of North Carolina require that:

"Each MPO, with cooperation of the Department of Transportation, shall develop a comprehensive transportation plan in accordance with 23 U.S.C. § 134. In addition, an MPO may include projects in its transportation plan that are not included in a financially constrained plan or are anticipated to be needed beyond the horizon year as required by 23 U.S.C. § 134. For municipalities located within an MPO, the development of a comprehensive transportation plan will take place through the metropolitan planning organization. For purposes of transportation planning and programming, the MPO shall represent the municipality's interests to the Department of Transportation."; and,

WHEREAS, Chapter 136, Article 3A, Section 136.66.2(d) provides that:

"For MPOs, either the MPO or the Department of Transportation may propose changes in the plan at any time by giving notice to the other party, but no change shall be effective until it is adopted by both the Department of Transportation and the MPO."; and,

WHEREAS, the Authority has been charged by the General Assembly (the "General Assembly") of the State of North Carolina (the "State") to construct, operate and maintain Turnpike Projects in the State;

WHEREAS, the Authority has indicated to the MPO its interest in constructing turnpike projects within the MPO's transportation planning jurisdiction, particularly the proposed Triangle Parkway and the Western Wake Parkway (including the I-540P project now under construction by the N.C. Department of Transportation); and,

WHEREAS, the Authority and the MPO wish to enter into this Memorandum of Understanding to memorialize the commitment being made between the two parties to carry out the following principles as they relate to the above turnpike projects;

NOW THEREFORE, the following **Memorandum of Understanding** is made:

Section 1. Any funds raised as a result of tolls on the Western Wake Parkway and the Triangle Parkway shall be used for those projects and not diverted to other projects outside the corridor from which those revenues were generated or other areas of the State.

Section 2. The tolls on these projects will end when all financing agreements including the construction costs, both principal and interest, have been paid and, in accordance with the Master Agreement between the Authority and the North Carolina Department of Transportation, these roads shall be returned to the North Carolina Department of Transportation for operation and maintenance.

Section 3. The North Carolina Department of Transportation shall be included in all relevant discussions relating to any funding shortfalls in connection with the Triangle Parkway and Western Wake Parkway. The solution to the gap funding shall not adversely affect the MPO under the State's current highway funding distribution "equity" formula, nor shall a new tax be imposed solely on the residents of Wake County or the MPO's Region, other than by a uniformly applied statewide tax.

Section 4. The Triangle Parkway and Western Wake Parkway shall be designed and constructed to meet or exceed all applicable North Carolina Department of Transportation standards and shall include major design features as set forth in

NCDOT's Environmental Impact FHWA Record of Decision for the Western Wake Freeway, including the following key design elements:

The turnpike projects will be constructed with three basic travel lanes in each direction with full control of access throughout. A median of sufficient width will be provided throughout to accommodate possible future improvements at a later date that will include consideration of accommodations for transit and high-occupancy vehicles.

Grade-separated interchanges for access will be provided at the following locations:

Triangle Parkway: I-40 (with ramp improvements to and from I-40), Hopson Road / Davis Drive, I-540 (with overpass for Kit Creek Road)

Western Wake Parkway: NC 54, Triangle Parkway, NC 55, Morrisville Parkway Extension, Green Level (High House) Road, US 64 (including overpass with ramps for Kelly Road at US 64), South Salem Street (Old US 1), US 1, NC 55 Bypass.

Section 5. Any sale of this project after its construction, regardless of whether tolls are still being collected, shall be subject to consultation with the MPO and subject to the above four principles.

Section 6. Each of the Authority and the MPO acknowledge that the statement of understandings set forth herein are not intended to create or constitute any legally binding obligation between the Authority and the MPO, but are intended as a good faith expression of present intentions of the parties based upon the facts and circumstances at the time this memorandum is signed by the parties hereto. Neither party shall have any liability or obligation to the other party with respect to the provisions set forth herein, whether based upon breach of contract, damages arising from the reliance upon the provisions hereof, or otherwise.

Any waiver, amendment, modification or supplement of or to any term or condition of this Memorandum of Understanding shall be effective only if in writing and signed by both parties; and the parties hereby waive the right to amend the provisions of this Memorandum, particularly this Section, orally.

Section 7. This Memorandum of Understanding may be executed in multiple counterparts.

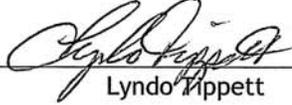
Section 8. This Memorandum of Understanding shall be effective immediately upon execution of the parties thereto.

IN WITNESS WHEREOF, the parties agree to this Memorandum of Understanding by the execution hereof as set forth below.

NORTH CAROLINA CAPITAL AREA
METROPOLITAN PLANNING
ORGANIZATION

NORTH CAROLINA TURNPIKE
AUTHORITY

By: 
Joe Bryan

By: 
Lyndo Tippett

Chairman, N.C. Capital Area
MPO Transportation Advisory
Committee

Chairman, N.C. Turnpike Authority
Board of Directors

Date: 6/21/07

Date: 6/25/07

Appendix D
NCTA and NCDOT Project Specific Agreement
and Executory Contract for Lease of Right of Way
for Triangle Expressway

**NORTH CAROLINA TURNPIKE AUTHORITY
AND
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
PROJECT SPECIFIC AGREEMENT FOR TRIANGLE EXPRESSWAY
AND
EXECUTORY CONTRACT FOR LEASE OF RIGHT OF WAY
FOR TRIANGLE EXPRESSWAY**

INDEX

1. Definition and Scope of Triangle Expressway Project
2. Master Agreement, Guidelines and Procedures
3. Revenue Sharing
4. Funding and Repayment
5. Use of NCDOT Personnel
6. Right-of-Way
 - Lease for Triangle Expressway
 - Lease for Northern Wake Expressway (NC 540)
7. Encroachments
8. Project Reversion to the NCDOT
9. The NCTA's Transfer of the Project to the NCDOT for Inclusion in the State Highway System
10. Compliance with Environmental Laws and Regulations
11. Municipal Agreements
12. Design Standards
13. Procurement
14. Construction
15. Traffic Control
16. Civil Rights Program
17. Safety
18. Warranties
19. Operation and Maintenance
20. ITS
21. Outdoor Advertising
22. Junkyards
23. Logo Program
24. Oversize and Overweight Permits
25. Regulation and Enforcement Responsibilities
26. Use of Toll Project by Emergency Vehicles and NCDOT Personnel
27. Incident Motorist Assistance Patrol (IMAP)
28. Future Improvements to Triangle Expressway
29. Audit and Monitoring Requirements
30. Compliance with State Laws
31. Notices
32. Attachments
33. Governing Law
34. Remedies and Liabilities of the Parties
35. Severability
36. Headings
37. Amendments
38. Construction of this Agreement
39. Termination of this Agreement
40. Successors and Assigns
41. Limitations
42. Sole Benefit
43. Relationship of the Parties
44. Authorization
45. Cooperation
46. Force Majeure

**NORTH CAROLINA TURNPIKE AUTHORITY
AND
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION**

**PROJECT SPECIFIC AGREEMENT FOR TRIANGLE EXPRESSWAY
AND
EXECUTORY CONTRACT FOR LEASE OF RIGHT OF WAY
FOR TRIANGLE EXPRESSWAY**

THIS PROJECT SPECIFIC AGREEMENT AND EXECUTORY CONTRACT FOR LEASE OF RIGHT OF WAY FOR TRIANGLE EXPRESSWAY ("Agreement") for Triangle Expressway ("the Project"), as hereinafter more fully described and defined, is hereby made and entered into this _____ day of _____, 2008, by and between the NORTH CAROLINA TURNPIKE AUTHORITY ("NCTA") and the NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, ("NCDOT"), agencies of the State of North Carolina.

WITNESSETH:

WHEREAS, the NCTA was created by the North Carolina General Assembly by the Act to Authorize Public Toll Roads And Bridges in North Carolina and the Creation of a Turnpike Authority in North Carolina General Statute § 136-89.180, *et seq.* (the "Act"), to accelerate the implementation of needed transportation improvements by funding specifically identified projects with tolls;

WHEREAS, the NCTA is authorized by the North Carolina General Assembly under the Act to study, plan, develop, design, establish, purchase, construct, operate and maintain certain Turnpike Projects, either on its own initiative, or at the request of the Board of Transportation;

WHEREAS, the NCDOT is enabled under the Act and other General Statutes to support the NCTA in addressing the critical transportation needs of the State; and,

WHEREAS, the NCDOT and the NCTA (the "Parties") have heretofore entered into an Agreement dated July 13, 2006 ("Master Agreement") in which they have agreed to each assume certain responsibilities to accomplish the purposes set forth in the General Statutes of North Carolina including the Act;

WHEREAS, the NCDOT currently owns some of the right-of-way necessary for the Triangle Expressway Project; and, once the NCTA secures appropriate funding, the NCTA will acquire the remaining necessary right-of-way for the Project; then the NCTA, after acquiring the remaining right-of-way necessary for the Project, will convey said remaining right of way for the Project to the NCDOT; and once the NCDOT has title to all the right-of-way necessary for the Project, the NCDOT will lease the right-of-way for the Project to the NCTA in accordance with the provisions set forth below in this Agreement; and the Lease for said right-of-way will be executed once all the right-of-way has been acquired and conveyed to the NCDOT;

NOW THEREFORE, the parties hereto, each in consideration of the promises and undertakings of the other as herein provided, do hereby covenant and mutually agree as follows:

Pursuant to the Master Agreement, the parties are required to agree upon and execute an individual Project Specific Agreement, approved by the Board of Transportation, regarding each turnpike project before the NCTA makes any capital expenditure or when the NCTA is committing to expend funds beyond one year. In conformity with those requirements of the Master Agreement, the parties agree on the Project Specific Agreement for the Triangle Expressway as set forth below.

The Parties agree that, after the NCTA has secured appropriate funding and the NCDOT has title to all the right-of-way necessary for this Project, the NCDOT will execute a lease providing the NCTA with uninterrupted access and full use of the right-of-way and other property interests, if any, necessary for the NCTA to construct, maintain and operate this Project, said lease to be executed in accordance with the provisions set forth below in this Agreement. Prior to the effective date of said lease, the Parties agree that the NCTA is authorized to complete design and do work for this Project subject to encroachment agreements as provided in this Agreement.

1. **Definition and Scope of the Triangle Expressway Project:** The Project is 18.8 miles in length and is comprised of three sections:
 - A. Triangle Parkway, which will extend from NC 147 at I-40 south for 3.4 miles and terminate at the interchange with the Outer Wake Expressway;
 - B. Northern Wake Expressway (NC 540), which is the portion of the Outer Wake Expressway extending from NC 54 to NC 55 and is 2.8 miles long; this section was built by the NCDOT with STIP funds and opened to the public in 2007 and will be leased to the NCTA in accordance with this Agreement and a Right of Way Lease Agreement to be executed by the Parties; this section will enable Triangle Parkway and Western Wake Parkway to function as a contiguous toll facility, and the North Carolina General Assembly authorized the conversion of this section into a toll facility; and
 - C. Western Wake Freeway, which will connect with Northern Wake Expressway (NC 540) and will extend 12.6 miles from a northern juncture with NC 55 near Research Triangle Park to a southern juncture with NC 55 Bypass near Holly Springs.

2. **Master Agreement, and Standard Procedures:** The Parties have entered into a Master Agreement, referenced above. All work done with respect to the Triangle Expressway Project is to be performed in accordance with provisions contained in the Master Agreement, the North Carolina Department of Transportation and North Carolina Turnpike Authority Erosion and Sedimentation Control Program Agreement dated May 11, 2007, said documents being incorporated into this Agreement by reference, and this Project Specific Agreement. The NCTA is to follow the NCDOT's policies and procedures during the planning, design, acquisition of right-of-way, contracting procurement, construction, maintenance and operation, unless the Parties agree otherwise in writing.
3. **Revenue Sharing:** There shall be no revenue sharing between the parties on this project. Should the NCTA seek to establish tolls on a portion of I-540, not described in Section 1, the Parties may amend this Agreement to address revenue sharing.
4. **Funding and Repayment:**
 - D. **Funding:** The NCTA will fund the planning, design, right-of-way acquisition, construction, maintenance and operation of this Project. This Project is anticipated to be funded through a variety of funding mechanisms, including but not limited to: Non-Recourse Toll Revenue Bonds, TIFIA Direct Secured Loan(s), Construction Fund Interest Earnings, NCDOT advances (to be repaid) and State appropriations.
 - i. Except as set forth in this or the following paragraph, the NCDOT shall have no obligation to provide financing. However, if requested by the NCTA, the NCDOT will cooperate with and assist by providing information reasonably necessary for the NCTA to secure financing, including the execution of appropriate estoppel certificates, as required.
 - ii. Any offering document prepared by the NCTA in connection with financing (collectively, the "Bond Documents") shall be submitted to the NCDOT for a limited review prior to its issuance or use. The NCDOT's review of the Bond Documents shall be limited solely to the description of the terms of this Agreement, the description of the NCDOT operations, and to confirm that the Bond Documents do not contain any impediments to or conflict with the NCTA's or the NCDOT's obligations. The NCDOT shall have 15 business days after receipt of any Bond Document to object to the description of the terms of this Agreement, the description of the NCDOT operations, or to any perceived impediments to or conflicts with the NCTA's or the NCDOT's obligations.

The NCTA will submit subsequent changes to the final Bond Documents that affect the foregoing review conditions to NCDOT for review.

E. **Reimbursement:**

- i. In accordance with North Carolina General Statute §§ 136-176(b) and 136-89.191 the NCTA will reimburse the NCDOT for all monies advanced and all expenses incurred by the NCDOT for the Triangle Expressway Project, unless there is explicit approval by the NCDOT Board of Transportation providing that monies advanced or expenses incurred by the NCDOT for this Project will not be reimbursed, or except as provided in subdivision ii immediately below. Monies advanced include any and all funds provided by the NCDOT to the NCTA for its use in the planning, design, right-of-way acquisition, construction, maintenance and operation of the Triangle Expressway. Expenses incurred by the NCDOT include, but are not limited to, expenses incurred and charged for time worked by the NCDOT personnel, the NCDOT's contractors, the NCDOT's attorneys and their private experts on any phase of this Project, both prior to and following the execution of this Agreement. The NCDOT and the NCTA may agree in a separate writing for certain advances to be repaid to the NCDOT within a specified time after the NCTA secures funding for this Project.
- ii. The NCDOT will bear the costs and will not ask for repayment for work performed prior to August 31, 2006 for the Western Wake Freeway segment of the Triangle Expressway.
- iii. With the consent of the NCDOT, NCDOT counsel and attorneys in the Attorney General's Office and their staffs may be involved in consultations and litigation related to preconstruction, right-of-way acquisition and condemnation and post construction matters for this Project. All time, expenses, costs, settlement amounts and court-ordered costs and damages incurred in anticipation of and during litigation, including, but not limited to, fees and costs for title searches; filing fees; service fees; publication fees; recording fees; excise tax fees; deposits of estimated compensation and any subsequent amended deposits of estimated compensation; expert witness fees and expenses; subpoena fees; mediation fees; exhibit preparation costs; survey and mapping costs; wetland assessment costs; land planning studies and other

studies prepared in anticipation of or for litigation; costs associated with depositions and transcripts; travel expenses including mileage reimbursement, lodging and meals during travel; guardian ad litem fees; court-ordered interest; any court-ordered costs, including costs for the property owners' experts and other witnesses; and damages, penalties, sanctions, attorneys' fees, awarded by a court for all claims, including but not limited to, condemnation and inverse condemnation claims, are authorized to be billed as agreed upon by the Parties through a WBS element number for billing to this Project, and all such time and expenses are to be reimbursed to the NCDOT by the NCTA. Other NCDOT staff expenses, including, but not limited to, consultations by Right-of-Way officials, and surveying, mapping, providing right of way monuments as needed within the Project and trial exhibit preparation by Location and Survey officials will also be reimbursed by the NCTA.

iv. The NCTA will also reimburse the NCDOT for any monies spent by the NCDOT on right-of-way claims processed by NCDOT for this Project. Additionally, the NCTA will reimburse the NCDOT for work done by NCDOT officials on portions of this Project. Also, any NCTA use of the NCDOT funded agency positions is to be reimbursed to the NCDOT pursuant to GS 136-176(b). The NCDOT is authorized to bill time for all such work and expenses incurred for this Project as agreed upon by the Parties through a distinct a WBS element number for billing to this Project. Reimbursement shall be in accordance with the Master Agreement and applicable state law.

5. **Use of NCDOT Personnel:** The NCTA may seek assistance from any or all of the NCDOT's various units and personnel for this Project, and the NCDOT may provide assistance to the NCTA. However, the NCTA must contact the NCDOT State Highway Administrator's Office pursuant to standard operating procedures agreed upon by the Parties. The NCDOT State Highway Administrator's Office will coordinate all assistance for the NCTA. The NCTA may contact other NCDOT personnel directly with the consent of the State Highway Administrator's Office to discuss ongoing Project work. As set forth in Paragraph 4(B) above, all time and all expenses incurred for this Project by the NCDOT will be reimbursed by the NCTA. The NCTA must provide the NCDOT with an authorized Turnpike WBS element number to charge all work and expenses prior to any NCDOT personnel beginning work.

6. **Right-of-Way:**

A. The NCDOT shall hold title to all right-of-way, including but not limited to fee simple title, temporary construction easements,

temporary drainage easements, permanent drainage easements, temporary slope easements, utility easements, permanent easements, licenses, rights of entry, leaseholds, and other property rights together with any control of access, necessary for this Project. Except to the extent otherwise agreed upon in writing by the Parties, the NCDOT, in its sole discretion, shall receive and hold fee simple or other title to all structures, road surfaces, rail lines and other improvements located anywhere within the Project right-of-way. Nothing, however, in this section shall be intended or construed to impact or interfere with the NCTA's ability to lease the right-of-way from the NCDOT pursuant to this Agreement, to charge and collect tolls on leased right-of-way, or to pledge tolls and other revenue as security for bonds, notes and loans to finance the construction, operation and maintenance of the Project.

B. The NCTA will be responsible for negotiating and acquiring all remaining right-of-way, easements, licenses, rights of entry, leaseholds, any uneconomic remnants (residues), and other property rights necessary for this Project. The NCTA will acquire all right-of-way in fee simple together with all warranties and any control of access, except that for contaminated property the NCTA will acquire such property as permanent easement as set forth in subdivision D below. Prior to the property owners transferring to the NCTA any interests for any right-of-way together with any control of access, any easements, licenses, rights of entry, leaseholds, and other property rights, the NCTA shall disclose to the NCDOT in writing:

- i. Any environmental assessments of any portion of the property or interests to be acquired;
- ii. Any known environmental contamination or hazard of any portion of the property or interests to be acquired; and
- iii. Any commitments to property owners made by the NCTA. The NCTA will be liable for all commitments made to property owners and will bear all costs for said commitments.

The NCTA will designate a person with authority who will accept deeds prior to recording with the appropriate Office of the Register of Deeds. The NCTA and other third parties working for the NCTA to acquire right-of-way will follow the policies and procedures established by the NCTA, the NCDOT and the FHWA to ensure compliance with federal and state laws and regulations concerning right-of-way acquisition and relocation assistance. These policies and procedures are set out in the NCDOT Division of Highway Right of Way Branch's Uniform Appraisal Standards and General Legal Principles for Highway Right of Way Acquisitions, the most

recent NCDOT Right of Way Manual, and the NCTA Right of Way Acquisition Policy. The NCTA will comply with policies and procedures contained in any future changes to said manuals.

- C. The NCTA will re-convey its right-of-way together with any control of access, any easements, licenses, rights of entry, leaseholds, residues and other property rights along with all warranties enjoyed by the NCTA to NCDOT once all remaining right-of-way necessary for the project has been acquired. The re-conveyance(s) to the NCDOT must be free and clear of all claims for compensation. If any parcel of land has been condemned and is still in litigation as of the date of the re-conveyance(s), the NCTA is liable for all costs and additional compensation agreed upon or court-ordered in said condemnation lawsuits or any inverse condemnation lawsuits filed or which may be filed for parcels along this Project, as specified in subdivision 4. B. iii. above. The NCTA will prepare the instruments for the re-conveyance to the NCDOT in accordance with the NCDOT's Instruments of Conveyance Section in the NCDOT Right of Way Manual. Prior to said re-conveyance, the NCTA will present all instruments conveying title to the Manager of the Right of Way Branch of the NCDOT for acceptance.
- D. The NCTA will acquire any property with environmental contamination or hazards in permanent easement and not in fee simple right-of-way. The NCTA will be responsible and bear all costs for remediation of property containing any known environmental contamination or hazard to a level as approved by the North Carolina Department of Environment and Natural Resources ("DENR") or other appropriate regulatory agency.
- E. The NCTA will be responsible and bear all costs for removing or demolishing any structures or other improvements within the Project right-of-way after conducting all necessary abatement in accordance with federal and state statutes and regulations. The NCDOT can provide the NCTA with a list of abatement contractors. The NCTA will also be responsible for and bear all costs for any deferred taxes for parcels along this project and all pro rata ad valorem taxes for parcels during the year acquired.
- F. The NCTA will be responsible and bear all costs for removing graves from the right-of-way in compliance with all pertinent federal and state statutes and regulations.
- G. The NCTA will follow the Uniform Relocation Act for all relocations. This Act is set out in the NCDOT Right of Way Manual. The NCTA will approve and pay for relocation payments. The NCDOT will audit the NCTA's relocation files to ensure compliance with the Act.

- H. The NCTA will appraise the leasehold interests and any bonus values for outdoor advertising structures within the proposed right-of-way in accordance with the policies and procedures set out in the NCDOT Division of Highway Right of Way Branch's Uniform Appraisal Standards and General Legal Principles for Highway Right of Way Acquisitions, and the NCDOT Right of Way Manual. The NCTA will use the most current version of the foregoing manuals that are in effect at the time of the appraisal.
- I. All residues already acquired by the NCDOT for the Northern Wake Expressway and the Western Wake Freeway, and all residues which may be acquired by the NCTA for the other segments of the Triangle Expressway will be under the control of the NCDOT. The NCTA will provide the NCDOT with an updated list of all residues as each is acquired.
- J. The NCTA will follow all property management policies and procedures of the NCDOT.
- K. The NCTA will process claims for settlements and requests for condemnation deposits. The NCDOT will review each individual right-of-way claim to ensure compliance with all pertinent federal and state statutes and regulations regarding acquisition and relocation. The NCTA will pay all necessary payments for settlements, condemnation filings, recording fees, relocations, and other associated expenses out of the NCTA's funds.
- L. The NCTA or its contractor will provide the NCDOT with a signed letter certifying whether or not all right-of-way has been acquired for the Project and certifying that all right-of-way acquired was acquired in accordance with federal and state regulations. The NCDOT will certify to the FHWA only that the process for certification was followed by the NCTA or its contractor.
- M. **Lease For Triangle Expressway:** The NCDOT agrees to lease the right-of-way acquired for this Project to the NCTA pursuant to a Lease and Access Agreement ("Lease") effective after the NCTA secures appropriate funding and after the NCTA acquires the remaining right-of-way necessary for this Project. The property subject to the Lease will be right-of-way and other necessary property interests so the NCTA may construct, operate and maintain the Triangle Expressway Project. The Lease will initially include the right-of-way acquired for the Triangle Parkway and the Western Wake Freeway. The Lease will be amended in writing to include the Northern Wake Expressway (NC 540) when NC 540 is ready to open as part of a toll road, since NC 540 is currently open and operating as a state highway. The Parties will agree upon the form of Lease not later than April 1, 2008, so that such form may be included

as a part of the NCTA credit rating reviews and financing applications as required.

- i. The term of the Lease will be from its execution until the Project is transferred or reverts to the NCDOT.
- ii. The property subject to the Lease includes right-of-way and any other property interests necessary for the construction, operation and maintenance of this Project. The NCDOT agrees to lease the right-of-way and other necessary property interests for this Project to the NCTA for \$1.00 per year, due annually on July 1 of the first year of the Lease and continuing until the NCTA ceases to operate said toll facility, or the NCTA transfers its interest in the operation of the facility to the NCDOT, or the Project reverts to the NCDOT.
- iii. Prior to the delivery of said Lease the NCDOT shall disclose to the NCTA in writing:
 - a. Any environmental assessments of any portion of the property subject to the Lease in the possession or control of the NCDOT;
 - b. Any known environmental contamination or hazard of any portion of the property subject to the Lease; and
 - c. Any commitments to landowners made by the NCDOT before or during the acquisition of any portion of the right-of-way subject to the Lease.
- iv. The parties understand and agree that should NC 540, Western Wake Freeway or Triangle Parkway hereafter be combined with other proposed nearby project(s) as a Public Private Partnership or otherwise, said Lease may be used to secure funding for such combined project. However, the NCTA may not sublease, assign or subrogate its responsibilities to any third party for such combined project without the express written consent of the NCDOT Board of Transportation.

v. When the toll facility is open to the traveling public, the NCTA will ensure that all portions of the Project shall be maintained to NCDOT standards or above. Should the NCTA enter into any third party agreements to operate or manage any portion of the Project, the NCTA is responsible for any failure to operate the roadway and Project in accordance with NCDOT standards. The NCTA is also responsible for the cleanup and costs associated with any incident involving hazardous materials and will ensure that all federal and state laws will be adhered to in the abatement of hazardous materials located on the Project's right-of-way.

vi. If at any time, the NCTA determines that the Triangle Expressway Project is no longer viable as a toll project or if any section of the Triangle Expressway Project (NC 540, Western Wake Freeway or Triangle Parkway) is not suitable as part of a toll facility, the NCTA will execute an instrument for recording with the appropriate Office(s) of the Register of Deeds indicating any Amendment or Termination of the Lease, and will transfer all right-of-way, property, interests and assets associated with the Project to the NCDOT. Said instrument shall be accepted in writing by the authorized representative of the NCDOT prior to recordation with the Register of Deeds. The NCTA will provide the NCDOT with written notice of NCTA's intent to amend or terminate, the Lease at least 180 days prior to amending or terminating the Lease and transferring all right-of-way, property, interests and assets associated with the Project to the NCDOT.

The NCTA shall nevertheless be responsible for reimbursements as provided herein.

vii. During the lease period, the NCDOT retains access rights to the leased premises for inspection purposes and for certain maintenance responsibilities. The NCDOT and its contractors may enter the leased premises to conduct such work necessary for said inspection and maintenance responsibilities. The NCDOT and its contractors will provide reasonable notification to the NCTA and its contractors as may be required by the NCTA and shall plan and conduct the NCDOT work in a manner that creates the least possible disturbance to the construction of the project or to the traveling public. The NCDOT will have complete access to Northern Wake Expressway (NC 540) without providing any notice to the NCTA until NC 540 is ready to open as part of a toll road.

viii. Lease for Northern Wake Expressway:

- a. The Amendment to the Lease to include the Northern Wake Expressway (NC 540) from the NCDOT to the NCTA, when NC 540 is ready to be opened as part of a toll road, shall include all right of way acquired by the NCDOT for the NC 540 project and all ancillary structures since such excess right of way may be needed in aid of erection of tolling structures and equipment. The lease will not include any residues. The NCTA will give the NCDOT 180 days written notice prior to NC 540 being ready to open as a toll road so an Amendment to the Lease can be executed. The NCTA and its contractors will be able to construct any necessary connections from NC 540 to the other portions of the Triangle Expressway as well as any necessary toll facilities, signage, lighting, signals and signal synchronization pursuant to an encroachment agreement with the NCDOT to be executed before the NCTA is ready to start such construction on NC 540. As soon as practicable, the NCTA will cooperate with the NCDOT to enter into encroachment agreements providing for any construction and changes in the connection of NC 540 as a toll road with the NCDOT non-toll highways. The NCTA will be responsible for and pay for any said construction or changes required for the connection of NC 540 as a toll road with the NCDOT non-toll highways, including but not limited to, any necessary changes to existing signage, lighting, signals and signal synchronization before tolls are collected.
- b. Prior to the effective date of the Lease for NC 540 as provided for herein, the Parties shall cooperate and shall execute and submit such letters or other writings necessary for the FHWA to designate the NC 540 Project a toll road.
- c. Notwithstanding the Lease of NC 540 as provided above:
 1. NC 540 shall be open to traffic without tolls until it is ready to be opened as part of a toll road as part of the Triangle Expressway Project.

Unless otherwise hereafter agreed by the parties in writing, NC 540 shall be operated and maintained under its usual standards by and at the cost of the

NCDOT until the NCTA has completed all steps necessary to open this section as part of a toll road, including providing 180 days written notice to the NCDOT as required above.

7. Encroachments:

A. Encroachment with the NCTA: An encroachment to perform Project work prior to the effective date of the Lease is part of this Agreement, subject to any Lease conditions when said lease becomes effective and the conditions set forth below, except for NC 540 for which the parties will enter a separate written Encroachment Agreement so that the NCTA can perform work on this road until it is ready to open as part of a toll road, as set forth in subdivision immediately above. The encroachment agreement will commence concurrently with the effective date of this Agreement, except for NC 540.

- i. The NCTA or its contractors will need access to NCDOT highways for preconstruction purposes. The NCTA will provide reasonable written notification to the NCDOT, and the NCDOT will provide access via written communication from the NCDOT Division 5 Engineer on NCDOT maintained right of way. The NCTA will also need access to existing NCDOT highways in order to connect them to the Triangle Expressway Project. The NCTA will cooperate with the NCDOT to enter into necessary encroachment agreements providing for any necessary construction and changes in the connection of this Project with the NCDOT non-toll highways. The NCTA will be responsible for any said construction or changes and all associated costs required for the connection of this Project with the NCDOT non-toll highways, including but not limited to changes or additions to signage, lighting, signals and signal synchronization. The NCTA will plan and conduct the NCTA work in a manner that creates the least possible disturbance to the traveling public. Any traffic control work requiring disruption of traffic in any way by the NCTA or its contractors on existing NCDOT highways will be coordinated with the NCDOT prior to performing the work and will be in accordance with NCDOT approved restrictions or as outlined in an encroachment agreement between the NCTA and the NCDOT.
- ii. All work performed by the NCTA and its contractors on the NCDOT right-of-way will be done in accordance with all applicable NCDOT standards, policies, and procedures unless otherwise agreed to in writing by the NCDOT Division 5 Engineer.

B. **Encroachments with Third Parties:**

The NCTA and the NCDOT Utility Unit have agreed upon and will use a Right-of-Way Encroachment Agreement for Controlled Access Highways for Turnpike Projects. This three party encroachment agreement (NCTA, NCDOT, and "encroacher") will be used for encroachments due to right-of-way ownership issues. However, where the NCTA will not retain operational control after the completion of the Project, such as along y-lines where driveway and/or other 3rd party allowances are permitted, the NCDOT will be the sole approval authority. If the NCTA is responsible for any funds for any of these activities, such as any utility reimbursements, NCTA will be a party to the encroachment agreement. All utility encroachments shall be in accordance with the NCDOT's Policies and Procedures for Accommodating Utilities on Highway Rights of Way Manual, specifically those procedures for controlled access highways. The NCTA will coordinate with the NCDOT regarding all encroachments for this Project.

8. **Withdrawal of NCDOT Funding Participation:**

- A. If at any time prior to the closing on any bond issuance, the NCTA determines that the Triangle Expressway Project is no longer viable as a toll project; or if the NCTA is unable to secure satisfactory financing, or if, in the opinion of the NCDOT Board of Transportation, satisfactory progress has not been made to implement or secure funding for this Project; or if the Project is not awarded by the NCTA by February 3, 2010, the NCDOT Board of Transportation may withdraw Project funding as provided in the Master Agreement and this Agreement as set forth in subsection B below.
- B. In the event that NCDOT intends to withdraw funding pursuant to the conditions set forth in paragraph 8A above, the NCDOT will provide written notice to the NCTA of the NCDOT's intent to withdraw Project funding. After said notice, the NCTA shall have 180 days to cure the defect. At the conclusion of the 180 days, if NCTA has failed to cure the defect to the satisfaction of NCDOT, NCDOT shall give NCTA 90 days notice prior to withdrawing Project funding and terminating, or within its discretion, assigning the lease if in effect at such time. The issuance of senior toll road revenue bonds by the NCTA to provide all or a portion of the construction financing for the Project shall in all events constitute satisfactory progress to implement funding for the Project.

9. **The NCTA's transfer of the Project to the NCDOT for Inclusion in the State Highway System:**

- A. At the termination of the Lease and upon fulfillment of all financing agreements and reimbursement to the NCDOT of all monies loaned by the NCDOT, spent by the NCDOT for its employees, contractors or counsel working on this Project, and for all costs and expenses incurred by the NCDOT, as set forth in Section 4. B. Reimbursement above, the NCTA shall transfer of the Project's roadway, all right-of-way, property, interests and assets associated with the Project from the NCTA to the NCDOT as provided in the Master Agreement. The NCTA will convey the roadway to the NCDOT for maintenance after the NCTA has removed all toll facilities and toll signage from the Project. The roadway must conform to NCDOT standards, including minimum maintenance conditions, prior to conveyance and acceptance to the State Highway System for Maintenance. An assessment of all highways and bridge assets will be conducted by the NCTA in compliance with the NCDOT performance targets. If the roadway does not meet NCDOT standards, the NCDOT will charge the NCTA the costs of bringing the roadway into compliance. The NCDOT may require the NCTA in writing to remove certain obstacles at the NCTA's expense, prior to the NCDOT agreeing to accept the roadway. The NCTA will provide the NCDOT with written notice 120 days in advance of the desired transfer date. The NCDOT Board of Transportation must approve the transfer. After approval by the Board of Transportation, the NCTA will execute an appropriate instrument memorializing this transfer to the NCDOT.
- B. When the Project is transferred to the NCDOT, all portions of the Project must be in compliance with all federal, state and local laws and regulations. The NCTA must bear all costs of bringing items into compliance.

10. **Compliance with Environmental Laws and Regulations:** The NCTA will be responsible, to the exclusion of the NCDOT except with respect to NC 540 as set forth below, for compliance with all applicable federal and state environmental laws and regulations, including, but not limited to, the National Environmental Policy Act (NEPA), the State Environmental Policy Act (SEPA), the Clean Water Act, the Clean Air Act, the USDOT Act, the National Historic Preservation Act, and the Endangered Species Act. The NCTA will be responsible, to the exclusion of the NCDOT except with respect to NC 540 as set forth below, for all claims or actions arising out of any alleged violations of any federal or state environmental law or regulation, including the costs of any litigation or administrative proceeding, and any attorneys' fees. Such costs for the time and expenses of the NCDOT's counsel and members of the Attorney General's Office and their staffs as well as attorneys' fees assessed for counsel representing parties other than the NCDOT and NCTA, and expenses, costs, settlement amounts and court-ordered costs and damages incurred during litigation, including, but not limited to, fees and costs for expert witness fees and expenses; subpoena fees; mediation fees; exhibit preparation costs; survey and mapping costs; wetland assessment costs;

land planning studies and other studies prepared for litigation; costs associated with depositions and transcripts; travel expenses including mileage reimbursement, lodging and meals during travel; court-ordered interest; any court-ordered costs, including costs for the other parties' experts and other witnesses; and damages, penalties, sanctions, attorneys' fees, awarded by a court for any such claims are authorized to be billed as agreed upon by the Parties through a WBS element number for billing to this Project, and all such time and expenses are to be reimbursed to the NCDOT by the NCTA.

The NCDOT shall remain responsible for all of its acts and omissions and those of its contractors and agents relative to NC 540 prior to the effective date of the Amendment to the Lease to incorporate NC 540 in the Lease, or a date, agreed to by the Parties, upon which date the NCTA will assume operations and maintenance of NC 540, whichever occurs later.

- A. Documentation required by the NEPA and/or SEPA has been completed for the Western Wake Freeway. The NCTA must complete the NEPA process for the Triangle Parkway prior to acquiring right of way or beginning construction of that portion of the Project. Provided, the NCTA may accept donations of property for the Project, subject to the concurrence of the FHWA. The NEPA or SEPA document must be completed on NC 540 prior to the NCTA's beginning construction of toll collection facilities on NC 540. Completion of the NEPA process consists of obtaining a Categorical Exclusion ("CE"), a Finding of No Significant Impact ("FONSI") or a Record of Decision ("ROD") document signed and approved by both the FHWA and the NCDOT. The NCTA will be responsible for preparing any supplemental environmental documentation required by NEPA, SEPA or FHWA regulations, such as consultations, re-evaluations, or other supplemental documents. All supplemental environmental documentation must be signed and approved by the NCDOT and the FHWA, if applicable. Any future improvements to the Project or to other area roadways not covered by previously-approved environmental documents must comply with NEPA and/or SEPA as applicable. Commitments made in the environmental documents for the Project, commonly known as the "Green Sheet" commitments, will be carried out by the NCTA, except when a local, state or federal government has submitted a formal resolution to the NCTA and the NCDOT advising that it no longer requires a specific commitment. The NCTA will certify to the NCDOT and the FHWA that it has met said commitments.
- B. The NCTA will prepare, sign, and submit all required federal and state environmental permit applications for the Project. The NCTA will provide to the NCDOT Project Development and Environmental Analysis (PDEA) Branch for review and comment a copy of any draft permit application at least two weeks prior to submittal, and will provide to the PDEA Branch a copy of any

draft permit conditions received from a regulatory agency within two business days of receipt. The NCTA will be solely responsible for compliance with all environmental permits issued for the Project, including, but not limited to, all costs, fines, penalties, and damages associated with any permit violations and all costs associated with correcting or responding to those violations, including the costs of any litigation or administrative proceeding and any attorneys' fees.

- C. The NCTA will ensure that stormwater drainage systems for this Project will be designed in accordance with the requirements of the National Pollutant Discharge Elimination System (NPDES) program. The NCTA has a NPDES Permit for this Project. The NCTA will use NCDOT's Best Management Practices for the protection of surface waters during construction.
 - D. The NCTA and the NCDOT agree to cooperate for the utilization of the Ecosystem Enhancement Program (EEP) for project mitigation. The NCTA will be responsible for paying any mitigation costs to the EEP.
 - E. The NCTA agrees to follow the North Carolina Department Of Transportation and North Carolina Turnpike Authority Erosion and Sedimentation Control Program signed on behalf of the NCDOT and the NCTA on May 11, 2007 during construction of this Project. (This document is attached hereto.)
11. **Municipal Agreements:** The NCTA will honor all municipal agreements in effect prior to the entry of this Agreement which will be affected by this Project. The NCTA is responsible for preparation and execution of all necessary agreements with various local governments for this Project. The NCDOT will be a party to these agreements, when such agreements significantly impact the NCDOT facilities. If the NCTA agrees to any provisions with local governments which are outside of the authority granted to the NCDOT by the North Carolina General Statutes and beyond what is provided in AASHTO and NCDOT policies and procedures, the NCDOT will not be responsible for carrying out such terms of any agreements should the Project be transferred to the NCDOT.
12. **Design Standards:** The NCTA and its contractors will adhere to established design standards and guidelines, including, but not limited to, Project specific design criteria as included in the Design-Build contract documents which will incorporate AASHTO and FHWA design guidelines and policies, and NCDOT standards, unless otherwise agreed upon by the NCTA, the NCDOT and the FHWA.
13. **Procurement:** The NCTA will follow procurement procedures and the procedures as set forth in North Carolina General Statute § 136-89.194.
14. **Construction of the Project:** The construction of this Project will be in accordance with the NCDOT Construction Manual in effect at the time of construction, except as modified by the Design-Build contract documents and

agreed upon by the NCTA, the NCDOT and the FHWA. The NCTA and the FHWA will separately agree upon toll collection technology issues which are not covered in the NCDOT Construction Manual. The NCTA or its contractors will perform quality assurance during construction. The NCTA will provide written assurance of compliance during all phases of the Project to the NCDOT and the FHWA. The NCTA will conduct structural design reviews with the NCDOT in accordance with established NCDOT policies and procedures.

15. **Traffic Control:** The NCTA will follow the United States Department of Transportation Manual on Uniform Traffic Control Devices (MUTCD) and the NCDOT Manual on Uniform Traffic Control Devices as well as the NCDOT's policies and procedures for installation and placement of traffic control devices on the Project and on highways connecting to the Project. The NCTA will coordinate with the NCDOT and the FHWA for traffic control planning, and congestion and incident management planning for this Project as well as for establishing traffic counting techniques and standards for the Project and highways connecting to the Project. The NCTA will provide periodic reports and conduct audits for traffic control planning and devices to the NCDOT and the FHWA as agreed upon by these three entities.
16. **Civil Rights Program:** The NCTA's Disadvantaged Business Enterprises (DBE) program will follow the federally approved NCDOT DBE program. The NCTA will ensure that its contractors adhere to this program and civil rights requirements and provide necessary reports to the NCDOT with appropriate documentation. The NCTA will enforce civil rights compliance, if necessary, by withholding payments from contractors or other administrative remedies. The NCTA will also ensure that the NCTA and its contractors comply with the Americans with Disabilities Act (ADA) from the preconstruction phases of this Project until the reversion of or the transfer of the Project to the NCDOT when the toll facilities have been removed.
17. **Safety:** Before and during construction and while operating and maintaining this project, The NCTA will follow safety related programs and procedures established by the NCDOT and the FHWA, including but not limited to those in the NCDOT Workplace Safety Manual and the NCDOT Safety Policies and Procedures Manual, and will conduct audits for and provide periodic reports on safety control to the NCDOT and the FHWA as agreed upon by these three entities.
18. **Warranties:** The NCTA will ensure that all warranties from its contractors, including the Design Build team will automatically be assigned to the NCDOT upon transfer of the Project to the NCDOT or the reversion of the Project to the NCDOT. Also, at all times, all warranties are to be in force in accordance with the NCTA's contract and all warranty work is to be performed as required by the contract specifications. The NCTA will perform quality assurance on the warranty process to ensure compliance. If during the warranty periods, which are initiated with the date of substantial completion of the contract, any work is found to be defective or not in accordance with the contract requirements, the NCTA Director of Construction, or the NCDOT State Construction Engineer, if the Project has been transferred to the NCDOT, will

notify the contractor in writing of its responsibility to perform corrective work in accordance with the contract provisions. If the contractor is in non-compliance with the contract requirements to perform warranty work, the NCTA Director of Construction, or the NCDOT State Construction Engineer, if the Project has been transferred to the NCDOT, will arrange for the work to be performed by others. The NCTA or the NCDOT will arrange for the cost reimbursement by the responsible contractor through a deductive contract modification or other means.

19. Operation and Maintenance:

- A. Prior to tolls being collected on NC 540, the NCDOT will perform routine maintenance along NC 540 to a comparable level with other controlled access highway corridors. The NCDOT will not be responsible for maintaining any items within the future toll construction contract for the Project or any items added as a result of the conversion of this segment to a turnpike facility. The NCDOT will completely operate and maintain NC 540 which is now part of the State Highway System until it is opened as a toll road, except for the NCTA's required construction to connect NC 540 with the rest of the Project.

- B. After the Project is opened as a toll road, the NCTA will be responsible for all operations and maintenance of this Project. The NCDOT will be responsible for the operation and maintenance of any right-of-way outside the Project limits. With regard to the termini points on ramps and/or loops, the NCDOT right-of-way line or an imaginary line projected along the assumed right of way width along any non-NCTA owned y-line crossing either over or under Triangle Expressway will be considered the delineation line for responsibility for the NCDOT and the NCTA as it relates to maintenance or other functions. The Parties will be responsible for operation and maintenance for their respective parts on either side of said lines. These limits will be graphically depicted on the final design plans.
 - 1. New signals and revisions to existing signals will be necessary along existing NCDOT highways prior to inception of tolls on the corridor. The NCTA will contract for this work in accordance with appropriate NCDOT engineering guidelines unless the NCDOT has preference on existing signals such as Division 5 Traffic Services performing the work in lieu of a contractor. If the NCDOT forces perform this work, the NCTA will reimburse the NCDOT for all costs and expenses, including parts and hours worked by the NCDOT personnel or its contractors. The NCTA will coordinate with the NCDOT regarding any necessary signal timing and details, traffic control requirements and other related issues to ensure NCDOT policies, procedures, and

requirements are met. The NCTA will bear all costs for said signals, signal synchronization and modifications.

2. New signs and revisions to existing signs will be necessary along existing NCDOT highways prior to inception of tolls on the corridor. The NCTA will contract for this work in accordance with appropriate NCDOT engineering guidelines. The NCTA will coordinate with NCDOT regarding any sign designs and details, and traffic control requirements necessary for this Project to ensure NCDOT policies, procedures, and requirements are met. The NCTA will bear all costs for said signs and modifications.
3. The NCTA will coordinate with NCDOT to install any necessary lighting along existing NCDOT highways prior to inception of tolls on the corridor. The NCTA will contract for this work in accordance with appropriate NCDOT engineering guidelines. The NCTA will coordinate with the NCDOT regarding any lighting designs for this Project to ensure NCDOT policies, procedures, and requirements are met. The NCTA will pay for energy usage for lighting elements installed by the NCTA regardless of location. The NCTA will bear all costs for said lighting and modifications.

20. **ITS Technologies and Integration into the NCDOT Traffic Operations Center:**

New ITS equipment or revisions to the existing equipment will be necessary along existing NCDOT highways prior to inception of tolls on the corridor. The NCTA will contract for this work in accordance with appropriate NCDOT engineering guidelines unless the NCDOT has preference on existing ITS equipment such as Division 5 Traffic Services performing the work in lieu of a contractor. If the NCDOT forces perform this work, the NCTA will reimburse the NCDOT for all costs and expenses, including parts and hours worked by the NCDOT personnel or its contractors. The NCTA will coordinate with the NCDOT regarding any necessary ITS designs and installations to ensure NCDOT policies, procedures, and requirements are met. The NCTA will bear all costs for said signals and modifications. The NCTA agrees to share video and traffic flow data with the NCDOT at no cost to the NCDOT. The NCDOT will provide space at the NCDOT Traffic Operations Center. The NCTA will bear all costs associated with wiring and equipment necessary and all work associated with meeting their requirements.

21. **Outdoor advertising adjacent to roadway:** The United States Congress mandated that the states effectively control outdoor advertising adjacent to interstate or Federal-aid primary highway systems, such as the Triangle Expressway, pursuant to 23 U.S.C. § 131, *et seq.* Should the states fail to effectively control outdoor advertising adjacent to said highways, the states could lose a significant portion of their federal funding for highways. In accordance with Congressional mandate, The North Carolina General

Assembly delegated to the NCDOT authority to control outdoor advertising adjacent to interstate or primary highway systems within this state, pursuant to the North Carolina Outdoor Advertising Control Act, North Carolina General Statute § 136-126, *et seq.* The NCTA will refer all matters relating to outdoor advertising control to the NCDOT.

22. **Junkyards:** The United States Congress mandated that the states effectively control junkyards adjacent to interstate or Federal-aid primary highway systems, such as the Triangle Expressway, pursuant to 23 U.S.C. § 136, *et seq.* Should the state fail to effectively control junkyards, the state could lose a significant portion of federal funding for highways. In accordance with Congressional mandate, The North Carolina General Assembly delegated to the NCDOT authority to control junkyards adjacent to interstate or primary highway systems within this state, pursuant to the North Carolina Junkyard Control Act, North Carolina General Statute § 136-141, *et seq.* The NCTA will refer any matters relating to junkyard control to the NCDOT.
23. **Logo Program:** The North Carolina General Assembly delegated to the NCDOT the authority for owning and erecting logo signs in the right of way, pursuant to North Carolina General Statute § 136-89.56. The NCTA will manage the logo signs program along this Project in accordance with federal and state laws and regulations and with the NCDOT policies and procedures.
24. **Oversize and Overweight Permits:** The United States Congress mandated that the states obtain compliance with size and weight requirements by vehicles operating on the Interstate System and federal-aid Primary roads, such as the Triangle Expressway, pursuant to 23 U.S.C. § 127. Should the states fail to certify to the FHWA that they are enforcing state laws respecting maximum vehicle size and weight or should states fail to enforce state laws respecting maximum vehicle size and weight, the states could lose a significant portion of their federal funding for highways, pursuant to 23 CFR § 657.19. In accordance with Congressional mandate, the North Carolina General Assembly delegated to the NCDOT authority to issue permits for qualifying oversize and overweight vehicles and fine operators of oversize and overweight vehicles who fail to obtain permits, pursuant to North Carolina General Statute § 20-119, *et seq.* The NCTA will refer all matters relating to oversize and overweight vehicles to the NCDOT. No moves for oversize or overweight vehicles will be routed through the NCTA routes without prior coordination with the NCDOT.
25. **Regulation and Enforcement Responsibilities:** Any regulatory or enforcement responsibilities that the NCDOT is charged with administering along the State's highways will be the responsibility of the NCTA during the term of the Lease, except matters relating to outdoor advertising control, junkyard control, oversize and overweight vehicles and other matters specifically delegated to the NCDOT and for which the NCDOT is subject to lose federal or state funding for noncompliance.
26. **Emergency and NCDOT Use of Toll Project:** In the event the Governor shall declare a State of Emergency that requires the use of the toll facility as an evacuation route, the use of the roadway will be free at all times during

the applicable period of such declared emergency. Emergency vehicles, as to be defined in the NCTA Toll Policy, will be reimbursed for use of the roadway at all times when responding to an emergency. The NCTA will provide transponders to the NCDOT to allow access to the roadway by NCDOT personnel when conducting official business specific to this NCTA toll facility.

27. **Incident Motorist Assistance Patrol (IMAP):** Any IMAP functions performed on the Triangle Expressway during the term of the Lease will be at the discretion and cost of the NCTA and coordinated with the NCDOT as necessary. The NCTA may contract with private entities for IMAP functions and the costs for such services will be born by the NCTA.

28. **Future Improvements to Triangle Expressway:** The Parties desire to outline the conditions and terms that must be met before the NCTA will be required to plan, design, fund and construct improvements to the I-40/NC 147/Triangle Parkway interchange and any other associated improvements. With respect to these future improvements, the Parties agree as follows:

A. The NCTA, subject to the financing conditions set forth in Section B below, will plan, design, program (fund and schedule) and implement improvements to the I-40/NC 147/Triangle Parkway interchange and any other associated improvements. The work will be done on a schedule based on the earliest occurrence of items i, ii, or iii as listed below:

i. The NCTA will fund the planning, design, and construction of the future improvements at the interchange and any other associated improvements so that the construction of the improvements will be completed at the time the annual average daily traffic ("AADT") is 50,000 vehicles per day on the Triangle Parkway.

ii. The NCTA will fund and begin the planning and design for the improvements at the interchange and any other associated improvements when the Durham Chapel Hill Carrboro and the Capital Area Metropolitan Planning Organizations and the NCDOT programs funds to begin the planning for improvements along I-40 in the vicinity of the interchange. The NCTA will fund the construction and implement the improvements to the interchange and any other associated improvements on the same schedule or on a compatible schedule as the construction of the I-40 improvements.

iii. The NCTA will fund and begin the planning and design for the improvements at the interchange and any other associated improvements when funds are identified to begin planning of the

Triangle Parkway Extension from the McCrimmon Parkway to NC 540 (Project U-4763 A). The NCTA will fund the construction and implement the interchange improvements and any other associated improvements at the same time or on a compatible schedule as the construction of project U-4763 A.

- B. Notwithstanding the conditions set forth in Section A above, the NCTA will plan, design and fund any future improvements along I-40/NC 147/Triangle Parkway if the NCTA, in consultation with its financial advisor, determines that:
- i. Revenue collected from the Triangle Expressway exceeds the then existing financial operating and maintenance requirements and debt obligations and commitments arising out of the construction of thereof; provided if funding comes from revenue bonds, all capital costs must be validated by an independent consulting engineer and toll revenue forecasts must be validated by an independent traffic and revenue consultant;
 - ii. All of the NCTA financing covenants will be met including the additional bonds test, the rate covenant, and the maintenance of investment grade senior lien bonds as required by TIFIA; and
 - iii. Any credit rating agency maintaining ratings on the NCTA will provide written affirmation that the NCTA credit ratings will maintain no less than a minimum investment grade credit rating if additional bonds are to be issued to fund the traffic improvements along the I-40/NC 147/Triangle Parkway interchange.
- C. NCTA shall not issue any parity bonds, other than refunding bonds (i.e., refinancing the original bonds), for any project before the improvements along I-40/NC 147/Triangle Parkway interchange and associated improvements are financed, provided that at least one of the circumstances in Section A are present at the time NCTA seeks to issue the bonds. If none of the circumstances in Section A are present, this restriction does not apply.

29. **Audit and Monitoring Requirements:** The procedure for documentation for this Project and control of same will be in accordance with the NCDOT Construction Manual. Certain modifications to NCDOT Construction Manual procedures may be made provided that the NCTA Chief Engineer and the NCDOT Highway Administrator or his designee agree beforehand in writing. The NCTA shall submit to the NCDOT such data, reports, records, contracts and other documents relating to the project as the NCDOT may request in order to ascertain the performance by the NCTA of its obligations under this and the Master Agreement. If requested by the NCDOT, the NCTA shall provide the NCDOT with a copy of any contract or proposed contract between the NCTA and a third party for procurement of consultant services, construction or commodities or any amendments, with respect to the project. All records are subject to being audited by the FHWA, the State Auditor and the NCDOT.
30. **Compliance with Laws:** The Parties agree to comply with all applicable federal, state and local laws, codes, ordinances, rules and regulations while this Agreement is in force.
31. **Notices:** Any notices given pursuant to this Agreement shall be given in writing and sent via First Class United States Mail, State Courier Service or personal delivery to the Parties at the address below. The notices shall be effective on the date received.
32. **Attachments:** All exhibits and other attachments to this Agreement are incorporated herein by reference.
33. **Governing Law:** This Agreement shall be construed under and in accordance with the laws of the State of North Carolina.

34. **Remedies and Liabilities of the Parties:** The Parties hereby expressly agree that the remedy for any noncompliance by either party under this Agreement shall be specific performance, except as set forth herein. Should the NCDOT be required to have the NCTA bring this Project into compliance with NCDOT standards prior to reversion or transfer of the project, the NCDOT will be allowed to recover all costs incurred in any litigation for this purpose. To the extent allowed by law, each party shall be responsible for its respective actions under this Agreement, including responsibility for any assessments, claims, fines, penalties or other liabilities resulting from or arising out of this Agreement. Except as otherwise provided in the following two sentences, the NCTA acknowledges and fully accepts its responsibility for the planning, design, acquisition of right-of-way, construction, maintenance, regulation, signage, signalization, illumination and overall operation of the Triangle Expressway, and hereby contracts to release the NCDOT from responsibility therefor in any litigation, except with respect to the gross negligence or willful misconduct of the NCDOT. Nothing, however, contained in this Agreement or elsewhere shall impose any liability on the NCTA for or with respect to the operation of NC 540 prior to it becoming part of the toll facility. Until any construction work is performed on NC 540 to alter it for use as a toll road, the NCDOT acknowledges and fully accepts its responsibility for the design and construction thereof. However, when the NCTA begins construction to connect NC 540 to the other sections of this Project, the NCTA acknowledges and fully accepts responsibility for the planning, design, right-of-way acquisition, construction, maintenance, regulation, signage, signalization, signal synchronization, illumination and overall operation thereof, including control in the work zone during construction and when the construction is complete, and hereby contracts to release the NCDOT from responsibility therefor in any litigation, except with respect to the gross negligence or willful misconduct of the NCDOT.

NCDOT shall reasonably assist the NCTA in the NCTA's pursuit of any breach of contract, negligence or other claim against any of the NCDOT's contractors, which assistance may include the NCDOT's assignment of its rights to the NCTA, sharing of documentation, providing access to its employees and consultants, or, if necessary, joinder in any legal action, provided that the NCTA shall promptly reimburse the NCDOT for all costs it incurs as a result. Further and to the extent allowed by law, the NCTA shall be fully subrogated to the NCDOT and shall be entitled to maintain an action over and against any third party or parties (but not against the NCDOT) legally liable for having caused the NCTA or the NCDOT to pay or disburse any sum of money in connection with any previously completed portion of the Project. Neither the NCDOT nor the NCTA waives, relinquishes, limits or conditions its governmental immunity or any other right to avoid liability which it otherwise might have to third parties. Nothing in this Agreement shall be construed as creating any liability in favor of any third party or parties against either the NCDOT or the NCTA, nor shall it ever be construed as relieving any third party or parties from any liabilities of such third party or parties to the NCDOT or the NCTA.

35. **Severability:** In case any one or more of the provisions of this Agreement shall be found invalid, unlawful or unenforceable for any reason, in any respect, the remainder of this Agreement shall remain in effect and construed as if such invalid, unlawful or unenforceable provision had never been contained herein.
36. **Headings:** The headings and section captions contained herein are for convenience only and shall not in any way limit or amplify the plain meaning of any term or provision herein.
37. **Amendments:** No, amendment, modification or alteration of any term or provision herein shall be valid or binding, unless the same shall be in writing, dated subsequent to the effective date of this Agreement, and duly executed by the authorized representatives of the NCTA and the NCDOT.
38. **Construction of this Agreement:** In the construction of this Agreement, whether or not so expressed, words used in the singular or in the plural, respectively, include both the singular and the plural, and the masculine, feminine and neuter genders include all other genders. The Parties agree that no single Party shall be deemed the author of this Agreement, and that the Agreement shall not be construed more or less strictly against one Party than against the other Party.
39. **Termination of this Agreement:** This Agreement may be terminated only by written mutual agreement and consent of the parties hereto, except as specifically herein provided.
40. **Successors and Assigns:** This Agreement shall bind, and shall be for the sole and exclusive benefit of the respective Parties and their legal successors.
41. **Limitations:** All covenants and obligations of the NCDOT and the NCTA under this Agreement shall be deemed to be valid covenants and obligations of said entities, and no officer, director, or employee of the NCDOT or the NCTA shall have any personal obligations or liability hereunder.
42. **Sole Benefit:** This Agreement is entered into for the sole benefit of the NCDOT and the NCTA and their respective successors and permitted assigns. Nothing in this Agreement or in any approval subsequently provided by either party hereto shall be construed as giving any benefits, rights, remedies, or claims to any other person, firm, corporation or other entity, including, without limitation, the public in general.
43. **Relationship of the Parties:** Nothing in this Agreement shall be deemed or construed by the parties, or by any third party, as creating the relationship of principal and agent between the NCDOT and the NCTA, nor any joint enterprise.

44. **Authorization**: Each party to this Agreement represents to the other that it is fully authorized to enter into this Agreement and to perform its obligations hereunder and that no waiver, consent, approval, or authorization from any third party is required to be obtained or made in connection with the execution, delivery, or performance of this Agreement.
45. **Cooperation**: Each party to this Agreement recognizes that time is of the essence with respect to executing duties and obligations as required pursuant to this Agreement. The NCTA will timely supply information and/or documents to the NCDOT for review. The NCDOT will complete such review of information and/or documents, including any Exhibit hereto, supplied by the NCTA without unreasonable delay.
46. **"Force Majeure"**: shall mean any of the following events which materially and adversely affect the parties obligations hereunder and which could not have been avoided by due diligence and use of reasonable efforts by the parties:
- a. Actual delay or permanent or temporary inability to perform due to events beyond the parties' reasonable control, including fire, flood, earthquake, hurricane, inclement weather, epidemic or other unavoidable casualties or acts of God, freight embargo, strikes or general inability to obtain labor or materials, civil commotion, sabotage, terrorism or enemy action;
 - b. Any change in a governmental rule, or change in the judicial or administrative interpretation of, or adoption of any new governmental rule which is materially inconsistent with the governmental rules in effect at the execution of this Agreement; and
 - c. Any lawsuit restraining, enjoining or delaying the granting or renewal of any governmental approval of the Project.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, this Agreement has been executed, in duplicate, the day and year first written above, on the part of the NCDOT and the NCTA by authority duly given.

STATE OF NORTH CAROLINA, through
its agency, the Department of Transportation

BY _____

NAME:

J Douglas Galvin

TITLE:

Chairman Board of Transportation

Address:

Transportation Building
1501 Mail Service Center
Raleigh, North Carolina 27699-1501

ATTEST:

Tammy Denning
SECRETARY TO THE BOARD OF
TRANSPORTATION AND CUSTODIAN
OF THE SEAL OF THE DEPARTMENT
OF TRANSPORTATION

NORTH CAROLINA
WAKE COUNTY

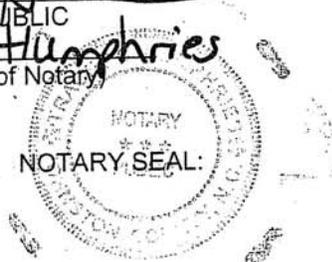
I, Tracey C. Humphries, a Notary Public in and for the County and State aforesaid, do hereby certify that Tammy Denning, Secretary of the Board of Transportation and Custodian of the Seal of the Department of Transportation of the STATE OF NORTH CAROLINA, personally came before me this day and acknowledged that she is the Secretary of the Board of Transportation and that by authority duly given and as the act of the Department of Transportation of the STATE OF NORTH CAROLINA, the foregoing PROJECT SPECIFIC AGREEMENT FOR TRIANGLE EXPRESSWAY AND EXECUTORY CONTRACT FOR LEASE OF RIGHT OF WAY FOR TRIANGLE EXPRESSWAY was signed in its name by Tammy Denning, sealed with its official seal and attested by herself as Secretary of the Board of Transportation.

In WITNESS WHEREOF, I have hereunto set my hand and Notarial Seal, the 6th day of March, 2008.

Tracey C. Humphries
NOTARY PUBLIC
Tracey C. Humphries
(Printed Name of Notary)

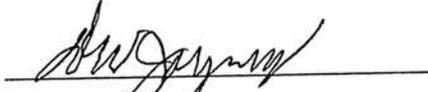
My Commission Expires:

08-14-2010



NORTH CAROLINA TURNPIKE AUTHORITY:

By:



Name: David Joyner

Title: Executive Director

Address:
1578 Mail Service Center
Raleigh, North Carolina 27699-1578

Appendix E
Senate Bill 1697
(Toll Enforcement Legislation)

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2007

SENATE BILL 1697
RATIFIED BILL

AN ACT TO PROVIDE FOR THE ENFORCEMENT OF TOLLS ON TURNPIKE PROJECTS OF THE NORTH CAROLINA TURNPIKE AUTHORITY, TO MODIFY LAWS APPLICABLE TO THE NORTH CAROLINA TURNPIKE AUTHORITY, AND TO CLARIFY THE AUTHORIZATION MADE IN A PRIOR LAW TO TOLL AN EXISTING SEGMENT OF N.C. 540.

The General Assembly of North Carolina enacts:

SECTION 1. Article 6H of Chapter 136 of the General Statutes is amended by designating the current sections in that Article as Part 1 with a heading that reads as follows:

"Part 1. Turnpike Authority and Toll Projects."

SECTION 2. Article 6H of Chapter 136 of the General Statutes, as amended by Section 1 of this act, is amended by adding a new Part to read:

"Part 2. Collection of Tolls on Turnpike Projects."

"§ 136-89.210. Definitions.

The definitions in G.S. 136-89.181 and the following definitions apply in this Article:

- (1) Reserved.
- (2) Open road toll. – A toll payable under an open road tolling system.
- (3) Open road tolling system. – A system of collecting a toll for the use of a highway that does not provide a way to pay the toll in cash while traveling on the highway.

"§ 136-89.211. Tolls for use of Turnpike project.

In exercising its authority under G.S. 136-89.183 to set tolls for the use of a Turnpike project, the Authority may not do any of the following:

- (1) Set open road tolls that vary for the same class of motor vehicle depending on the method by which the Authority identifies a motor vehicle that drives on the Turnpike project. This does not preclude the Authority from allowing a discount of up to thirty-five percent (35%) of the amount of a toll for a motor vehicle equipped with an electronic toll collection transponder.
- (2) Exempt a motor vehicle that is not a law enforcement vehicle, an emergency fire or rescue vehicle, or an emergency medical services vehicle from the requirement of paying a toll for the use of a Turnpike project.

"§ 136-89.212. Payment of toll required for use of Turnpike project.

A motor vehicle that is driven on a Turnpike project is subject to a toll imposed by the Authority for the use of the project. If the toll is an open road toll, the person who is the registered owner of the motor vehicle is liable for payment of the toll unless the registered owner establishes that the motor vehicle was in the care, custody, and control of another person when it was driven on the Turnpike project.

A person establishes that a motor vehicle was in the care, custody, and control of another person when it was driven on a Turnpike project by submitting to the Authority a sworn affidavit stating one of the following:

- (1) The name and address of the person who had the care, custody, and control of the motor vehicle when it was driven. If the motor vehicle

- was leased or rented under a long-term lease or rental, as defined in G.S. 105-187.1, the affidavit must be supported by a copy of the lease or rental agreement or other written evidence of the agreement.
- (2) The motor vehicle was stolen. The affidavit must be supported by an insurance or police report concerning the theft or other written evidence of the theft.
 - (3) The person transferred the motor vehicle to another person by sale or otherwise before it was driven on the Turnpike project. The affidavit must be supported by insurance information, a copy of the certificate of title, or other evidence of the transfer.

"§ 136-89.213. Administration of tolls and requirements for open road tolls.

(a) Administration. – The Authority is responsible for collecting tolls on Turnpike projects. In exercising its authority under G.S. 136-89.183 to perform or procure services required by the Authority, the Authority may contract with one or more providers to perform part or all of the collection functions and may enter into agreements to exchange information that identifies motor vehicles and their owners with one or more of the following entities: the Division of Motor Vehicles of the Department of Transportation, another state, another toll operator, or a toll collection-related organization. Identifying information obtained by the Authority through an agreement is not a public record and is subject to the disclosure limitations in 18 U.S.C. § 2721, the federal Driver's Privacy Protection Act.

(b) Open Road Tolls. – If a Turnpike project uses an open road tolling system, the Authority must operate a facility that is in the immediate vicinity of the Turnpike project and that accepts cash payment of the toll and must place signs on the Turnpike project that give drivers the following information:

- (1) Notice that the driver is approaching a highway for which a toll is required. Signs providing this information must be placed before the toll is incurred.
- (2) The methods by which the toll may be paid.
- (3) Directions to the nearby facility that accepts cash payment of the toll.

"§ 136-89.214. Bill for unpaid open road toll.

(a) Bill. – If a motor vehicle travels on a Turnpike project that uses an open road tolling system and a toll for traveling on the project is not paid within 15 days after the travel occurs, the Authority must send a bill by first-class mail to the registered owner of the motor vehicle for the amount of the unpaid toll. The Authority must send the bill within 90 days after the travel occurs. If a bill is not sent within the required time, the Authority waives collection of the toll. The Authority must establish a billing period for unpaid open road tolls that is no shorter than 15 days. A bill for a billing period must include all unpaid tolls incurred by the same person during the billing period.

(b) Information on Bill. – A bill sent under this section must include all of the following information:

- (1) The name and address of the registered owner of the motor vehicle that traveled on the Turnpike project.
- (2) The date the travel occurred, the approximate time the travel occurred, and each segment of the Turnpike project on which the travel occurred.
- (3) An image of the registration plate of the motor vehicle, if the Authority captured an electronic image of the motor vehicle when it traveled on the Turnpike project.
- (4) The amount of the toll due and an explanation of how payment may be made.
- (5) The date by which the toll must be paid to avoid the imposition of a processing fee under G.S. 136-89.215 and the amount of the processing fee.

(6) A statement that a vehicle owner who has unpaid tolls is subject to a civil penalty and may not renew the vehicle's registration until the tolls and civil penalties are paid.

(7) A clear and concise explanation of how to contest liability for the toll.

"§ 136-89.215. Required action upon receiving bill for open road toll and processing fee for unpaid toll.

(a) Action Required. – A person who receives a bill for an unpaid open road toll must take one of the following actions within 30 days after receiving the bill:

(1) Pay the bill.

(2) Send a written request to the Authority for a review of the toll.

(b) Fee. – If a person does not take one of the actions required under subsection (a) of this section within the required time, the Authority may add a processing fee to the amount the person owes. The processing fee may not exceed six dollars (\$6.00). A person may not be charged more than forty-eight dollars (\$48.00) in processing fees in a calendar year.

The Authority must set the processing fee at an amount that does not exceed the costs of identifying the owner of a motor vehicle that is subject to an unpaid toll and billing the owner for the unpaid toll. The fee is a receipt of the Authority and must be applied to these costs.

"§ 136-89.216. Civil penalty for failure to pay open road toll.

(a) Penalty. – A person who receives one or more bills for unpaid open road tolls during the first or second six-month period in a year and who has not paid the amount due on those bills within 30 days after the end of the six-month period is subject to a civil penalty of twenty-five dollars (\$25.00). The period from January 1 through June 30 of a year is the first six-month period in a year, and the period from July 1 through December 31 is the second six-month period in a year. Only one penalty may be assessed for a six-month period.

(b) Payment. – The Authority must send a notice by first-class mail to a person who is assessed a civil penalty under this section. A person who is assessed a civil penalty must pay the unpaid toll for which the civil penalty was imposed, the amount of any processing fee due, and the civil penalty within 30 days after receiving the notice.

(c) Penalty Proceeds. – A civil penalty imposed under this section is payable to the Authority or, if collected when a vehicle registration is renewed, to the Division of Motor Vehicles of the Department of Transportation. The clear proceeds of a civil penalty imposed under this section must be credited to the Civil Penalty and Forfeiture Fund established in G.S. 115C-457.1. The guidelines used by the Office of State Budget and Management to determine an agency's actual costs of collecting a civil penalty and the clear proceeds of the civil penalty apply to the determination of the clear proceeds of a civil penalty imposed under this section.

"§ 136-89.217. Vehicle registration renewal blocked for unpaid open road toll.

(a) Registration Block. – Failure of a person to pay an open road toll billed to the person under G.S. 136-89.214, any processing fee added under G.S. 136-89.215, and any civil penalty imposed under G.S. 136-89.216 is grounds under G.S. 20-54 to withhold the registration renewal of a motor vehicle registered in that person's name. The Authority must notify the Commissioner of Motor Vehicles of a person who owes a toll, a processing fee, or a civil penalty. When notified, the Commissioner of Motor Vehicles must withhold the registration renewal of any motor vehicle registered in that person's name.

(b) Collection by DMV. – A person whose motor vehicle registration renewal is blocked under this section may pay to the Division of Motor Vehicles of the Department of Transportation the amount owed for unpaid tolls, processing fees, and civil penalties due under this Part when renewing the vehicle registration. The Division must remit to the Authority the amount of tolls, fees, and civil penalties collected. The Division's costs of collecting tolls, fees, and civil penalties are considered a necessary expense of

the operation of the Authority, and the Authority must reimburse the Division for these costs.

"§ 136-89.218. Procedures for contesting liability for unpaid open road toll.

(a) Informal Review. – A person who receives a bill for an unpaid open road toll and who disputes liability for the toll may contest the toll by sending to the Authority a request for review of the toll. The person may include a sworn affidavit described in G.S. 136-89.212 that establishes that someone else had the care, custody, and control of the motor vehicle subject to the toll when the toll was incurred. The person must send the request for review to the Authority within 30 days after receiving the bill for the toll. A person who does not send a request for review to the Authority within this time limit waives the right to a review. If a person sends a timely request for review to the Authority, the Authority may not collect the disputed toll and any processing fee added to the bill for the toll until the conclusion of the review process in this section.

(b) Administrative Hearing. – If the Authority conducts an informal review under subsection (a) of this section and determines that the person who requested the review is liable for the toll, the Authority must send the person a notice informing the person of the Authority's determination. The person may contest this determination by filing a petition for a contested case hearing at the Office of Administrative Hearings in accordance with Article 3 of Chapter 150B of the General Statutes.

(c) Judicial Review. – Article 4 of Chapter 150B of the General Statutes governs judicial review of a final decision made in a contested case authorized under subsection (b) of this section."

SECTION 3. G.S. 136-89.181 reads as rewritten:

"§ 136-89.181. Definitions.

The following definitions apply to this Article:

- (1) "Department" means the Department. – The North Carolina Department of Transportation.
- (2) "Turnpike Authority" means the Turnpike Authority. – The public agency created by this Article.
- (3) "Authority Board" means the Authority Board. – The governing board of the Turnpike Authority.
- (4) "Turnpike Project" means a Turnpike project. – Either of the following:
a. A road, bridge, or tunnel project planned, or planned and constructed, in accordance with the provisions of this Article.
b. A segment of the State highway system the Authority Board converts to a tolled highway pursuant to the authorization in G.S. 136-89.187.
- (5) "Turnpike System" means collectively all Turnpike Projects developed in accordance with the provisions of this Article. – Turnpike system. – All Turnpike projects."

SECTION 4. G.S. 136-89.183(a) reads as rewritten:

"(a) The Authority shall have all of the powers necessary to execute the provisions of this Article, including the following:

- (1) The powers of a corporate body, including the power to sue and be sued, to make contracts, to adopt and use a common seal, and to alter the adopted seal as needed.
- (2) To study, plan, develop, and undertake preliminary design work on up to nine Turnpike Projects. At the conclusion of these activities, the Turnpike Authority is authorized to design, establish, purchase, construct, operate, and maintain the following projects:
 - a. Triangle Parkway Expressway, including segments also known as N.C. 540, Triangle Parkway, and Western Wake Freeway in Wake and Durham Counties.

- b. ~~Gaston East-West Connector-Connector, also known as the Garden Parkway.~~
 - c. ~~Monroe Connector-Connector/Bypass.~~
 - d. Cape Fear Skyway.
 - e. A bridge of more than two miles in length going from the mainland to a peninsula bordering the State of ~~Virginia-Virginia, pursuant to G.S. 136-89.183A.~~
 - f. ~~I-540 in Wake and Durham Counties.~~
- Any other project proposed by the Authority in addition to the projects listed in this subdivision must be approved by the General Assembly prior to construction.
- A Turnpike Project selected for construction by the Turnpike Authority shall be included in any applicable locally adopted comprehensive transportation plans and shall be shown in the current State Transportation Improvement Plan prior to the letting of a contract for the Turnpike Project.
- (3) Repealed by Session Laws 2005-275, s. 2, effective August 12, 2005.
 - (4) To rent, lease, purchase, acquire, own, encumber, dispose of, or mortgage real or personal property, including the power to acquire property by eminent domain pursuant to G.S. 136-89.184.
 - (5) To fix, revise, charge, and collect tolls and fees for the use of the Turnpike Projects. Prior to the effective date of any toll or fee for use of a Turnpike Facility, the Authority shall submit a description of the proposed toll or fee to the Board of Transportation, the Joint Legislative Transportation Oversight Committee and the Joint Legislative Commission on Governmental Operations for review.
 - (6) To issue bonds or notes of the Authority as provided in this Article.
 - (6a) To invest the proceeds of bonds or notes of the Authority that are pending disbursement or other idle funds of the Authority in any investment authorized by G.S. 159-30.
 - (7) To establish, construct, purchase, maintain, equip, and operate any structure or facilities associated with the Turnpike System.
 - (8) To pay all necessary costs and expenses in the formation, organization, administration, and operation of the Authority.
 - (9) To apply for, accept, and administer loans and grants of money or real or personal property from any federal agency, the State or its political subdivisions, local governments, or any other public or private sources available.
 - (10) To adopt, alter, or repeal its own bylaws or rules implementing the provisions of this Article, in accordance with the review and comment requirements of G.S. 136-89.182(j).
 - (11) To utilize employees of the Department; to contract for the services of consulting engineers, architects, attorneys, real estate counselors, appraisers, and other consultants; to employ administrative staff as may be required in the judgment of the Authority; and to fix and pay fees or compensation to the Department, contractors, and administrative employees from funds available to the Authority.
 - (12) To receive and use appropriations from the State and federal government.
 - (13) To adopt procedures to govern its procurement of services and delivery of Turnpike Projects.
 - (14) To perform or procure any portion of services required by the Authority.
 - (15) To use officers, employees, agents, and facilities of the Department for the purposes and upon the terms as may be mutually agreeable.

- (16) To contract for the construction, maintenance, and operation of a Turnpike Project.
- (17) To enter into partnership agreements with the Department of Transportation, agreements with political subdivisions of the State, and agreements with private entities, and to expend such funds as it deems necessary, pursuant to such agreements, for the purpose of financing the cost of acquiring, constructing, equipping, operating, or maintaining any Turnpike Project. An agreement entered under this subdivision requires the concurrence of the Board of Transportation if the Department of Transportation is a party to the agreement.
- (18) To utilize incentives in any contract for development or construction of a Turnpike Project, in order to promote expedited delivery of the project."

SECTION 5. G.S. 136-89.187 reads as rewritten:

"§ 136-89.187. Conversion of free highways prohibited.

The Authority Board is prohibited from converting any segment of the nontolled State Highway System to a toll facility, except for a segment of ~~Interstate N.C. 540~~ under construction as of July 1, 2006, located in Wake and Durham Counties, ~~County~~ and extending from ~~I-40 southwest to N.C. 55~~ the N.C. 54 exit on N.C. 540 to the N.C. 55 exit on N.C. 540. No segment may be converted to a toll route pursuant to this section unless first approved by the Metropolitan Planning Organization (MPO) or Rural Planning Organization (RPO) of the area in which that segment is located."

SECTION 6. G.S. 136-89.194 reads as rewritten:

"§ 136-89.194. Laws applicable to the Authority; exceptions.

(a) Motor Vehicle Laws. – The Turnpike System shall be considered a "highway" as defined in G.S. 20-4.01(13) and a "public vehicular area" as defined in G.S. 20-4.01(32). All law enforcement and emergency personnel, including the State Highway Patrol and the Division of Motor Vehicles, shall have the same powers and duties on the Turnpike System as on any other highway or public vehicular area.

(b) Applicable Contracting. – For the purposes of implementing this Article, the Authority shall solicit competitive proposals for the construction of Turnpike Projects in accordance with the provisions of Article 2 of this Chapter. Contracts for professional engineering services and other kinds of professional or specialized services necessary in connection with construction of Turnpike Projects shall be solicited in accordance with procedures utilized by the Department of Transportation. Cost estimates prepared for the purpose of comparing bids for a Turnpike project are confidential and may not be disclosed until after the opening of bids for the project.

(c) Alternative Contracting Methods. – Notwithstanding the provisions of subsection (b) of this section, the Authority may authorize the use of alternative contracting methods if:

- (1) The authorization applies to an individual project;
- (2) The Authority has concluded, and documented in writing, that the alternative contracting method is necessary because the project cannot be completed utilizing the procedures of Article 2 of this Chapter within the necessary time frame or available funding or for other reasons the Authority deems in the public interest;
- (3) The Authority has provided, to the extent possible, for the solicitation of competitive proposals prior to awarding a contract; and
- (4) The approved alternative contracting method provides for reasonable compliance with the disadvantaged business participation goals of G.S. 136-28.4.

(d) Entry for Surveys. – The Turnpike Authority and its employees and contractors shall have the same right of entry for surveys, borings, soundings, or examinations as granted the Department of Transportation in G.S. 136-120.

(e) Plans and Contract Documents. – The requirements for registering right-of-way plans set in G.S. 136-19.4 apply to right-of-way plans of the Turnpike Authority. In applying G.S. 136-19.4 to the Authority, references to the "Department" are considered references to the "Turnpike Authority" and references to the "Board" are considered references to the "Authority Board."

Diaries and analyses for contracts of the Turnpike Authority are subject to the same restrictions on disclosure that apply to diaries and analyses for contracts of the Department under G.S. 136-28.5.

(f) Construction Claims. – G.S. 136-29 applies to the adjustment and resolution of Turnpike project construction claims. In applying G.S. 136-29 to the Turnpike Authority, references to the 'Department of Transportation,' the 'State Highway Administrator,' and a 'State highway' are considered references to the 'Turnpike Authority,' the 'chief engineer of the Turnpike Authority,' and a 'Turnpike project.'

(g) Contract Exemptions. – The following provisions concerning the purchase of goods and services by a State agency do not apply to the Turnpike Authority:

(1) Article 3 of Chapter 143 of the General Statutes. The Authority may use the services of the Department of Administration in procuring goods and services that are not specific to establishing and operating a toll revenue system.

(2) Article 3D of Chapter 147 of the General Statutes. The Authority may use the services of the Office of Information Technology Services in procuring goods and services that are not specific to establishing and operating a toll revenue system. All contract information for contracts for information technology are subject to disclosure in accordance with G.S. 147-33.95.

(h) APA. – Chapter 150B of the General Statutes does not apply to the Turnpike Authority, except as provided in this section and G.S. 136-89.218."

SECTION 7. G.S. 20-54 is amended by adding a new subdivision to read:

"(10) The North Carolina Turnpike Authority has notified the Division that the owner of the vehicle has not paid the amount of tolls, fees, and civil penalties the owner owes the Authority for use of a Turnpike project."

SECTION 8. G.S. 20-63(g) reads as rewritten:

"(g) Alteration, Disguise, or Concealment of Numbers. – Any operator of a motor vehicle who shall willfully mutilate, bend, twist, cover or cause to be covered or partially covered by any bumper, light, spare tire, tire rack, strap, or other device, or who shall paint, enamel, emboss, stamp, print, perforate, or alter or add to or cut off any part or portion of a registration plate or the figures or letters thereon, or who shall place or deposit or cause to be placed or deposited any oil, grease, or other substance upon such registration plates for the purpose of making dust adhere thereto, or who shall deface, disfigure, change, or attempt to change any letter or figure thereon, or who shall display a number plate in other than a horizontal upright position, shall be guilty of a Class 2 misdemeanor. Any operator of a motor vehicle who shall willfully cover or cause to be covered any part or portion of a registration plate or the figures or letters thereon by any device designed or intended to prevent or interfere with the taking of a clear photograph of a registration plate by a traffic control or toll collection system using cameras commits an infraction and shall be fined under G.S. 14-3.1. Any operator of a motor vehicle who shall otherwise intentionally cover any number or registration renewal sticker on a registration plate with any material that makes the number or registration renewal sticker illegible commits an infraction and shall be fined under G.S. 14-3.1. Nothing in this subsection shall prohibit the use of transparent covers that are not designed or intended to prevent or interfere with the taking of a clear photograph of a registration plate by a traffic control or toll collection system using cameras."

SECTION 9. G.S. 47-30(l) reads as rewritten:

"(l) ~~The provisions of this~~ This section shall ~~does not~~ apply to the registration of highway right-of-way plans provided for in ~~G.S. 136-19.4~~ G.S. 136-19.4 or ~~G.S. 136-89.184~~, nor to the registration of roadway corridor official maps provided for in Article 2E of Chapter ~~136~~ 136 of the General Statutes."

SECTION 10. G.S. 146-65 reads as rewritten:

"§ 146-65. Exemptions from Chapter.

~~None of the provisions of Chapter 146 shall~~ This Chapter does not apply ~~to~~ to any of the following:

- (1) The acquisition of highway rights-of-way, borrow pits, or other interests or estates in land acquired for the same or similar purposes, or to the disposition thereof, by the Board of ~~Transportation~~; or Transportation or the North Carolina Turnpike Authority.
- (2) ~~The North Carolina State Ports Authority, the authority and powers thereof set forth or provided for by G.S. 143B-452 through G.S. 143B-467 or to the exercise of all or any of such authority and powers, Authority in exercising its powers under G.S. 143B-452 through G.S. 143B-467.~~

~~Nor shall the provisions of Chapter 146 abrogate or alter any otherwise valid contract or agreement heretofore made and entered into by the State of North Carolina or by any of its subdivisions or agencies during the term or period of such contract or agreement."~~

SECTION 11. G.S. 136-89.183A reads as rewritten:

"§ 136-89.183A. Accelerated Pilot Toll Bridge Project.

(a) Findings. – The General Assembly finds that there is a need for a bridge connecting the Currituck County mainland to the Currituck County Outer Banks; that the bridge should be implemented as a toll bridge; that the bridge should be implemented in a manner that protects the natural environment and quality of life on the Outer Banks; and that the character of the existing road system in Currituck County and Dare County Outer Banks should be preserved.

~~(a)~~(b) Contract to Construct Accelerated Pilot Toll Bridge Project. – The Authority shall contract with a single private firm to design, obtain all necessary permits for, and construct the toll bridge described in G.S. 136-89.183(a)(2), known as the Mid-Currituck Bridge, a bridge of more than two miles in length going from the mainland to a peninsula bordering the State of Virginia, in order to provide accelerated, efficient, and cost-effective completion of the project.

~~(b)~~(c) Preconstruction Participation. – In addition to the authority granted by G.S. 136-89.191, the Department shall participate in the cost of preconstruction activities related to the project described in this section, if requested by the Authority.

(d) Environmental Protection. – The Authority shall ensure that the Mid-Currituck Bridge is implemented in a manner that accomplishes all of the following:

- (1) Ensures the preservation of water quality in Currituck Sound.
- (2) Mitigates the environmental impact of the bridge on the Currituck County mainland and the Outer Banks.
- (3) Reduces traffic congestion and vehicle miles traveled, and preserves the character of the existing road system, in Dare County and Currituck County on the Outer Banks.

~~(e)~~(e) Report on Project. – The Authority shall report to the Joint Legislative Transportation Oversight Committee on December 1, 2005, and each December 1 thereafter until completion, on the progress of the accelerated pilot toll bridge project described in this section."

SECTION 12. Section 7 of this act becomes effective January 1, 2011. Section 8 of this act becomes effective December 1, 2008. The remainder of this act is effective when it becomes law.

In the General Assembly read three times and ratified this the 18th day of July, 2008.

Marc Basnight
President Pro Tempore of the Senate

Joe Hackney
Speaker of the House of Representatives

Michael F. Easley
Governor

Approved _____m. this _____ day of _____, 2008

Appendix F
August 5, 2008 Roadway Construction Bid Opening
Results and Revised Cost Estimate Summary

Triangle Parkway & Northern Wake Expressway

QUALITY ADJUSTED PRICE RANKING (U-4763B / Wake/Durham COUNTIES) C201994					
Vendor	Technical Score	Quality Credit (%)	Price Proposal (\$)	Quality Value (\$)	Adjusted Price (\$)
S.T. Wootern Design-Build Team	92.8	19.00	\$137,446,000.00	\$26,111,740.00	\$111,334,260.00
Team United	85.7	13.08	\$144,885,747.00	\$18,951,055.71	\$125,934,691.29
WC English	86.5	13.75	\$146,528,000.00	\$20,147,600.00	\$126,380,400.00
ENGINEER'S ESTIMATE			\$135,700,000.00		

Western Wake Freeway

QUALITY ADJUSTED PRICE RANKING (R-2635A,B,C / Wake COUNTY) C201993					
Vendor	Technical Score	Quality Credit (%)	Price Proposal (\$)	Quality Value (\$)	Adjusted Price (\$)
Lane/Skanska JV	87.4	14.50	\$505,000,000.00	\$73,225,000.00	\$431,775,000.00
Raleigh Durham Road Builders	92.9	19.08	\$446,460,000.00	\$85,184,568.00	\$361,275,432.00
Wooten/Barnhill JV	91.9	18.25	\$464,750,000.00	\$84,816,875.00	\$379,933,125.00
ENGINEER'S ESTIMATE			\$508,700,000.00		

Revised Cost Estimate Summary Based on 8-5-08 Bid Opening

Item	Cost		
Design-Build Construction			
Segment	Triangle Parkway & Northern Wake Expressway	Western Wake Freeway	Total
Roadway	--	--	--
Structures	--	--	--
Drainage	--	--	--
Miscellaneous	--	--	--
Toll Structures & ITS Rough-In	--	--	--
Highway Contract Total	\$137,446,000	\$446,460,000	\$583,906,000
Landscaping D-B - all incl.	\$1,340,000	\$4,440,000	\$5,780,000
ITS D-B - all incl.	\$3,850,000	\$5,930,000	\$9,780,000
Toll Integration D-B - all incl.	\$3,470,000	\$5,770,000	\$9,240,000
Specialized Contract Total	\$8,660,000	\$16,140,000	\$24,800,000
Design-Build Contract Total	\$146,106,000	\$462,600,000	\$608,706,000
NCTA Costs			
Right of Way	\$23,970,000	\$201,410,000	\$225,380,000
Right-of-Way Negotiation	\$550,000	\$2,220,000	\$2,770,000
Subtotal	\$24,520,000	\$203,630,000	\$228,150,000
Utility Relocation	\$4,000,000	\$14,600,000	\$18,600,000
NCTA Construction Oversight	\$5,050,000	\$13,910,000	\$18,960,000
NCTA Administrative	\$680,000	\$3,270,000	\$3,950,000
Environmental Mitigation	\$2,410,000	\$8,380,000	\$10,790,000
D-B Stipends/Incentives/Fuel	\$8,660,000	\$15,500,000	\$24,160,000
Agency Planning	-	-	-
Subtotal	\$11,750,000	\$27,150,000	\$38,900,000
NCTA Total Costs	\$45,320,000	\$259,290,000	\$304,610,000
Project Segment Total Costs	\$191,426,000	\$721,890,000	\$913,316,000
Total Project Cost			\$913,330,000

Memorandum



HNTB, North Carolina, PC
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

To: Mr. Grady Rankin
NCTA Chief Financial Officer

Date: April 14, 2009

From: Spencer Franklin, P.E., P.T.O.E.

Seal

Subject: **ADDENDUM 1** – Triangle Expressway Project
Engineering Report, dated and sealed March 20, 2009



Spencer T. Franklin
4-14-2009

Please find attached one revised sheet for insertion into the Triangle Expressway Project Engineering Report, dated and sealed March 20, 2009. The attached sheet replaces Appendix F, Sheet 2 of 2, "Revised Cost Estimate Summary".

The cost summary table has been revised to reflect the latest assumptions regarding the price adjustment contingencies for diesel fuel and asphalt binder. At the time the bids were submitted, prices for these commodities were at near record levels. The contingency fund in the original cost estimate summary was based on these prices, plus an additional ten to fifteen percent annual escalation during construction. Diesel prices dropped from \$4.0016 per gallon in July 2008 to \$1.3685 per gallon in March 2009. Similar price reductions have occurred for asphalt binder. The revised cost estimate included in Appendix F incorporates the assumption that prices for these commodities will increase 25% above March 2008 levels. The net result is a \$35.76M decrease in the project cost estimate.

If you have any questions or need additional information, please contact me at (919) 424-0461.

Revised Cost Estimate Summary
Based on 8-5-08 Bid Opening and Updated Fuel Price Adjustment Assumptions

Item	Cost		
Design-Build Construction			
Segment	Western Wake Freeway	Triangle Parkway & Northern Wake Expressway	Total
Highway D-B Contract Total	\$446,460,000	\$137,450,000	\$583,910,000
Adjustment based on anticipated lower fuel/asphalt binder prices*	-\$11,690,000	-\$5,300,000	-\$16,990,000
Highway D-B Contract Total	\$434,770,000	\$132,150,000	\$566,920,000
Landscaping Estimate	\$4,440,000	\$1,340,000	\$5,780,000
ITS estimate	\$5,930,000	\$3,850,000	\$9,780,000
Toll Integration estimate	\$5,770,000	\$3,470,000	\$9,240,000
Specialized Contract Total	\$16,140,000	\$8,660,000	\$24,800,000
Design-Build Contract Total	\$450,920,000	\$140,810,000	\$591,730,000
NCTA Costs			
Right of Way	\$201,410,000	\$23,970,000	\$225,380,000
Right-of-Way Negotiation	\$2,220,000	\$550,000	\$2,770,000
Subtotal	\$203,630,000	\$24,520,000	\$228,150,000
Utility Relocation	\$14,600,000	\$4,000,000	\$18,600,000
NCTA Construction Oversight	\$13,910,000	\$5,050,000	\$18,960,000
NCTA Administrative	\$3,270,000	\$670,000	\$3,940,000
Environmental Mitigation	\$8,380,000	\$2,410,000	\$10,790,000
D-B Stipends &Incentives	\$3,550,000	\$1,850,000	\$5,400,000
Subtotal	\$43,710,000	\$13,980,000	\$57,690,000
NCTA Total Costs	\$247,340,000	\$38,500,000	\$285,840,000
Project Segment Total Costs	\$698,260,000	\$179,310,000	\$877,570,000
Total Project Cost			\$877,570,000

* Contractor bids were based on fuel and asphalt binder prices as of July 1, 2008. Prices for these commodities have since dropped substantially. The Contractors' prices will be adjusted according to the current commodity price at the time certain construction activities occur. The scenario shown in this table assumes a 25% increase above March 2009 prices. The adjustments shown here are negative due to the substantial decrease in prices that has occurred since July 2008.