





Exhibit A.2  
Schedule Effort by Task, Subtask and Timeline

Schedule

FY 2015/2016

Task	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
1.1 Advice on parking behavior data collection												
1.2 Household survey data collection												
1.3 Transit on-board survey data collection												
1.4 Gather locally collected data												
2.1 Maintain & update highway & transit networks, SE data												
2.2 Modify Net Manager												
2.3 Zone geography												
2.4 Develop highway network procedures												
2.5 Transit networks												
2.6 Zonal data and models												
2.7 Develop an improved parking constraint model												
2.8 Data systems												
3.1 Estimation and/or calibration of trip production models												
4.1 Peak spreading models												
4.2 Prepare time of day factors												
5.1 Develop improved destination choice model												
6.1 Calibration and/or estimation of non-motorized models												
7.1 Re-calibration of mode choice models												
8.1 Develop improved commercial vehicle model												
8.2 University student model												
8.3 Land use models												
8.4 External travel models												
8.5 Links to MOVES air quality models												
8.6 Sub-area and corridor analysis procedures												
9.1 Investigate improving highway assignment												
9.2 V6 Model assignment & overall model calibration												
10.1 TRM v6 documentation												
11.1 Assist with LRTP model application												
11.2 Assistance with TRM model application												
11.3 Action items												
12 Oversight, reporting & training												

**Exhibit B**  
**Federal Regulatory and Programmatic Requirements**  
**For Federal Flow-through Funding**

**Known State Funding Agency: NC Department of Transportation**  
**Catalog of Federal Domestic Assistance (CFDA) Number: 20.205-5**

By signing the agreement, the University Official certifies that to the best of his/her knowledge, University is in compliance with the applicable regulatory requirements listed below. University agrees to immediately report to Sponsor any change in its compliance status. University agrees to flow these requirements down to Subrecipient at any tier as appropriate.

1. Nondiscrimination statutes on the basis of race, color, national origin, sex, blindness, handicap or age.
2. Common Federal Policy for the Protection of Human Subjects (45 CFR Parts 46 & 690).
3. USDA Rules that implement the Laboratory Animal Welfare Act of 1966 (9 CFR Parts 1-4).
4. Regulations for the Clean Air Act, 42 USC 7606, 40 CFR 6 & 32.
5. Regulations for the Clean Water Act 33 USC 1368, as implemented by E.O. 11738.
6. National Scenic Rivers Act of 1968, 16 USC 1271, 40 CFR 6.
7. For NSF & DHHS awards only, internal conflict of interest policy.
8. E.O. 11246, & E.O. 11375 "Equal Employment Opportunity," per 41 CFR part 60.
9. OMB Circular A-129 and 40 CFR 30.73, the parties are not delinquent on any Federal debt.
10. The parties are in compliance with the Drug-Free Workplace Act of 1988, Public Law 100-690, 41 USC 701, 40 CFR 32 or equivalent.
11. HIPPA Patient Privacy Rule, 45 CFR 160 & 164.
12. Coastal Barriers Resource Act, 40 CFR 6.
13. The Anti-Kickback Act of 1986, Pub. L. 99-634, amending 18 U.S.C. 874, 29 C.F.R. Part 3
14. The Safe Drinking Water Act, 42 U.S.C. 300h-3(e)
15. Davis-Bacon Act, 40 U.S.C. 276a to 276a-7, 29 C.F.R. Part 5
16. Contract Work Hours and Safety Standards Act, 40 U.S.C. 327 - 330, 29 C.F.R. Part 5
17. Environmental Protection Agency Regulations, 40 C.F.R. Parts 1 through 49
18. Mandatory Standards & Policies contained in the State Energy Conservation Plan issued in compliance with the Energy Policy and Conservation Act, Pub. L. 94-163, 89 Stat. 371
19. "Debarment and Suspension" Regulations under E.O. 12549 & 12689, 7 CFR 3017, 10 CFR 606 & 40 CFR 32, or equivalent.
20. Prohibitions against lobbying as set forth in 7 CFR 3018, 31 USC 1352 and 18 USC 1913.
21. The Hatch Act (5 U.S.C. s 1501-1508 and 7324-7328) which limits the political activities of employees whose principal employment activities in whole or in part supported by Federal Funds.
22. Comply with environmental regulations that may be issued pursuant to:
  - a. Institution of environmental quality control measures under NEPA (PL 91-190 & EO11514)
  - b. Notification of violating facilities EO 11738
  - c. Protection of wetlands EO 11990
  - d. Evaluation of flood hazards in floodplains EO 11988
  - e. Assure project consistency under Costal Zone Management Act of 1972 16 USC 1451
  - f. Endangered Species Act of 1973, as amended PL 93-205
  - g. National Historic Preservation Act of 1966, 16 USC470, EO11593
  - h. Lead-Based Paint Poisoning Prevention Act 42 USC 4801
  - i. Requirements governing the applicable Grant Program

(Abbreviations: CFR = "Code of Federal Regulations," USC = "United States Code," E.O. = "Executive Order," OMB = "Office of Management and Budget")



## EXHIBIT C

### Risk Management

Wayne Goodwin | Commissioner of Insurance

June 25, 2015

Dr. Jeffrey Cheek

Associate Vice Chancellor for Research Administration

Research Administration/SPARCS

North Carolina State University

Campus Box 7514

Administrative Services Building I

Raleigh, NC 27695-7514

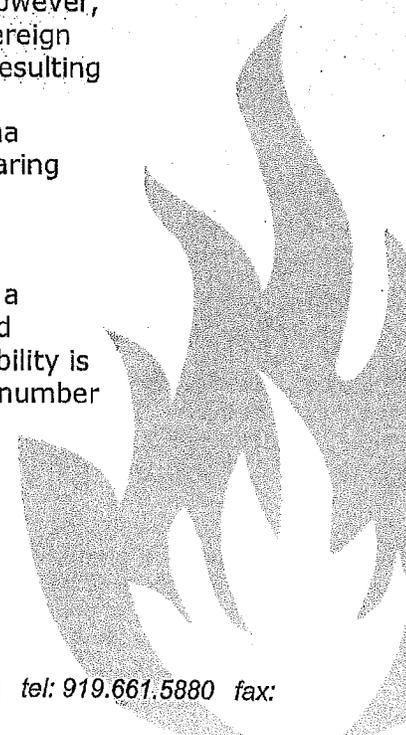
Dear Dr. Cheek:

The purpose of this letter is to provide certification of various insurance coverages for North Carolina State University.

Property insurance is provided on a replacement cost basis by the State Property Fire Insurance Fund, a State self-insurance fund. This coverage is provided on a continuous basis and renews on July 1 of each year. We do not use policy numbers. Instead, we refer to the University's department/division number, which is 60005003.

In regard to general liability, the State of North Carolina claims sovereign immunity and therefore cannot be sued without its permission. However, by statute (Chapter 143, Article 31), the State has waived its sovereign immunity against suits for negligence of its employees or agents resulting from bodily injury or property damage. The State has waived its immunity up to a limit of \$1,000,000 per claim. The North Carolina Industrial Commission is constituted a court for the purpose of hearing and passing upon tort claims against departments, institutions or agencies.

Excess liability coverage is provided for State employees, through a private insurance company, for losses resulting in bodily injury and property damage in the performance of their jobs. The limit of liability is \$10,000,000 per occurrence. Coverage is provided by AIG policy number 01-424-26-26



Page Two  
Dr. Jeffrey Cheek  
North Carolina State University

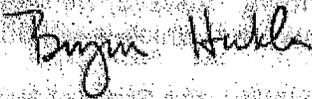
The State maintains a boiler and machinery policy written through the Hartford Steam Boiler Inspection and Insurance Company. The renewal date for this policy is January 12 and the limit of coverage is \$50,000,000 for each accident with a \$5,000 deductible (certain equipment may carry a higher deductible).

Automobile liability insurance for state-owned vehicles is provided by Travelers. The bodily injury and property damage limits for this coverage is \$1,000,000 per person and \$10,000,000 per occurrence. This policy renewal date is July 1.

Public Employee Dishonesty coverage is written through Fidelity and Deposit Company of Maryland with a \$1,000,000 limit. The policy renews on January 6.

The State of North Carolina is self-insured for the payment of Workers Compensation claims.

Sincerely,



Bryan Heckle CIC, CPCU, CRM  
Risk Manager



**Risk Management**

Wayne Goodwin, Commissioner of Insurance

Rick McIntyre, Assistant State Fire Marshal

**CERTIFICATE OF COVERAGE**

**Certificate Holder:** For Information Purposes Only

**Insurer:** State of North Carolina

**Authorization:** Public Officers & Employee Liability Insurance Commission of North Carolina and the General Statutes of North Carolina, Chapter 143, Articles 31 to 31D, Sections §143-291 to §143-300.

**Period:** July 1, 2015 until June 30, 2016

**Coverage:**

- A) Tort Claims against Departments, Agencies, and Employees
- B) Excess Liability for State Employees
- C) Workers' Compensation

**Limits**

- A) \$1,000,000 for Tort claims against the State
- B) \$10,000,000 for claims against state employees
- C) Statutory Limits for Workers' Compensation

**Description:** North Carolina State University; and its employees, officers, agents, as covered by the Defense of State Employees as per NCGS § 143 300.2.

**Administrator:** Department Insurance - Risk Management Division  
Public Officers & Employees Liability Insurance Commission  
1202 Mail Service Center, Raleigh, NC 27699-1202

**Note:** This Certificate is for informational purposes only and does not alter any provision of the Tort Claims or Defense of State Employees General Statutes of the State.

**Verified By:**

Bryan Heckle, CIC, CPCU, CRM  
Risk Manager

NCSU – Certificate 2015-16 (WC)



# CERTIFICATE OF LIABILITY INSURANCE

AUTOR-1

OF ID: KK

DATE (MM/DD/YYYY)  
07/01/2015

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> NC Assoc. of Ins. Agents, Inc. P. O. Box 1165 Cary, NC 27512 Karen A. Kerr, AAI, CISR, CPIW	<b>CONTACT NAME:</b> _____ <b>PHONE (A/C, No, Ext):</b> _____ <b>FAX (A/C, No):</b> _____ <b>E-MAIL ADDRESS:</b> _____
	<b>INSURER(S) AFFORDING COVERAGE</b> <b>INSURER A:</b> Travelers Property & Casualty <b>INSURER B:</b> _____ <b>INSURER C:</b> _____ <b>INSURER D:</b> _____ <b>INSURER E:</b> _____ <b>INSURER F:</b> _____
<b>INSURED</b> State of North Carolina Attn: Bryan Heckle 1202 Mail Service Center Raleigh, NC 27699-1202	<b>NAIC #</b> _____

**COVERAGES**

CERTIFICATE NUMBER:

REVISION NUMBER:

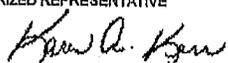
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	<b>GENERAL LIABILITY</b> <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC					EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$ \$
A	<b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS		TRJCAP104T6800TIL-15	07/01/2015	07/01/2016	COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ 1,000,000 BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (PER ACCIDENT) \$ INCL ABOVE <b>BI/PD PER ACC</b> \$ 10,000,000
	<b>UMBRELLA LIAB</b> <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS-MADE DED \$ _____ RETENTION \$ _____					EACH OCCURRENCE \$ AGGREGATE \$ \$
	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N/A				WC STATUTORY LIMITS OTH-ER E.I. EACH ACCIDENT \$ E.I. DISEASE - EA EMPLOYEE \$ E.I. DISEASE - POLICY LIMIT \$
A	<b>Hired Physical Damage</b>		TRJCAP449J9525TIL-15	07/01/2015	07/01/2016	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Hired Physical Damage Limits: ACV, cost of repair or \$40,000 (\$60,000 if GVW exceeds 10,000 lbs.), whichever is less. Comp and Collision coverage only apply for 30 days from the date the rental contract becomes valid. If the value of the vehicle is higher than the Hired Physical Damage Limits and/or days of rental > 30 days then the vehicle must be scheduled in the Auto Web.

**CERTIFICATE HOLDER****CANCELLATION**

<b>NCDEPTO</b>  NC Dept. of Insurance Attn: Bryan Heckle 1202 Mail Service Center Raleigh, NC 27699-1202	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE 
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**Exhibit D - FY 2016 Work Hours by Task Percent Complete Invoice Template**

Task Number	Task Description	Start Date	End Date	Tot. hours	Task per cents	Percent Complete by Quarter			
						Q1	Q2	Q3	Q4
1.1	Advice on parking beh. data collection management	7/1/2015	10/25/2015	152	1.5%				
1.2	Household survey data collection	7/1/2015	6/30/2016	560	5.6%				
1.3	Transit on-board survey data collection	7/1/2015	6/30/2016	488	4.9%				
1.4	Gather locally collected data	7/1/2015	6/30/2016	280	2.8%				
2	Model Inputs			4,337					
2.1	Maintain and update hwy & transit nets, SE data			608	6.1%				
2.1.1	Develop tool for outside network review	10/1/2015	12/31/2015	160					
2.1.2	Develop 2013 base year highway & transit network & SE	7/1/2015	8/31/2015	320					
2.1.5	Develop network coding manual and procedures incl. QA/QC	1/6/2016	2/25/2016	128					
2.2	Modify Net Manager			40	0.4%				
2.2.2	Debug Net Manager for V6 network & train team members			40					
2.3	Zone geography			0	0.0%				
2.4	Develop hwy network procedures			0	0.0%				
2.5	Transit Networks			64	0.6%				
2.5.2	Develop transit select link analysis tool	1/6/2016	1/28/2016	64					
2.6	Zonal data & models			1,305	13.1%				
2.6.1	Population synthesizer			769					
2.6.1.7	Extend and improve population synthesis	1/4/2016	4/11/2016	560					
2.6.1.8	Investigate ways to utilize full range of Community Viz data	4/12/2016	5/17/2016	209					
2.6.3	Employment synthesizer			160					
2.6.3.7	Employment synthesizer toolkit	7/1/2015	9/3/2015	160					
2.6.4	Long term decision models			376					
2.6.4.1	Auto ownership			216					
2.6.4.1	Estimation of auto ownership model	2/1/2016	3/8/2016	216					
2.6.4.2	Usual workplace location			80					
2.6.4.2	Investigation	4/1/2016	4/14/2016	80					
2.6.4.3	Usual school location			80					
2.6.4.3	Investigation	4/15/2016	4/28/2016	80					
2.7	Develop an improved parking constraint model			1,320	13.3%				
2.7.4	Analyze parking survey data & prepare estimation data	10/23/2015	12/14/2015	296					
2.7.5	Script modifications	12/15/2015	1/22/2016	232					
2.7.6	Estimate parking constraint model	1/25/2016	3/3/2016	232					
2.7.7	Calibrate model	3/4/2016	4/15/2016	248					
2.7.8	Validate model & final adjustment	4/18/2016	5/26/2016	232					
2.7.9	Documentation	5/27/2016	6/9/2016	80					
2.8	Data systems			240	2.4%				
2.8.1	Investigation	5/4/2016	6/30/2016	240					
2.9	Develop improved transit fare model			760	7.6%				
2.9.1	Investigation	12/17/2015	1/1/2016	96					
2.9.2	Design transit fare subsidy model	1/4/2016	1/18/2016	88					
2.9.3	Analyze transit on board survey data and prepare estimation data	1/19/2016	2/15/2016	160					
2.9.4	Estimate transit fare subsidy model	2/16/2016	2/29/2016	80					
2.9.5	Calibrate model	3/1/2016	3/22/2016	128					

**Exhibit D - FY 2016 Work Hours by Task Percent Complete Invoice Template**

Task Number	Task Description	Start Date	End Date	Tot hours	Task per cents	Percent Complete by Quarter			
						Q1	Q2	Q3	Q4
2.9.6	Validate model and final adjustment	3/23/2016	4/13/2016	128					
2.9.7	Documentation	4/14/2016	4/27/2016	80					
3	Trip generation			0	0.0%				
4	Time of day and peak spreading model			0	0.0%				
5	Trip distribution			0	0.0%				
5.1	Develop improved destination choice model			0					
6	Non-motorized			0	0.0%				
7	Mode choice			0	0.0%				
8	Special models			576					
8.1	Develop improved commercial vehicle model			0	0.0%				
8.2	University student model			0	0.0%				
8.3	Land use models			0	0.0%				
8.4	External travel models			240	2.4%				
8.4.1	Update external travel models	11/5/2015	12/16/2015	240					
8.5	Links to MOVES air quality models			136	1.4%				
8.5.1	Develop module to link MOVES air quality models with TRM	7/8/2015	9/2/2015	136					
8.6	Sub-area and corridor analysis procedures			200	2.0%				
8.6.1	Procedures for performing sub-area and corridor analysis - investigation	10/1/2015	10/15/2015	40					
8.6.2	Prepare set of procedures for performing sub-area & corridor analysis	10/21/2015	12/24/2015	160					
9	Trip assignment, calibration & validation			408					
9.1	Investigate improving hwy assignment			128	1.3%				
9.1.2	Prepare proof of concept for DTA within TRM	4/4/2016	4/25/2016	128					
9.2	V6 Model assignment & overall model calibration			280	2.8%				
9.2.3	Model chain calibration/validation	7/1/2015	8/18/2015	280					
10	TRM documentation			224	2.3%				
10.1	TRM v6 documentation	7/1/2015	11/30/2015	224					
11	Technical assistance			1,224					
11.1	Assist with MTP model application		N/A	360	3.6%				
11.2	Assistance with TRM model application		N/A	160	1.6%				
11.3	Action items		N/A	704	7.1%				
11.3.1	Stakeholder requested tasks		N/A	424					
11.3.2	Decide type of model to build for TRMv7			280					
11.3.2.1	Investigate advanced trip based models at other MPOs	1/4/2016	1/29/2016	160					
11.3.2.2	Conduct decision-making process to select model type for TRMv7	2/1/2016	2/11/2016	120					
12	Oversight & reporting & training			1,688					
12.1	Oversight & reporting		N/A	1,408	14.2%				
12.1.1	Oversight		N/A	1,408					
12.2	Training		N/A	280	2.8%				
12.2.1	TRM training		N/A	60					
12.2.2	Staff training		N/A	220					
	*** Indicates will be included in FY 2017 or later work plan				100.0%				