

IREDELL-STATESVILLE SCHOOLS NARRATIVE TABLE OF CONTENTS

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A. SIGNIFICANCE

1) **Potential Contribution.** ❖ *National Significance:* Students across our country are negatively impacted by unresolved trauma, and as they continue to suffer, academic achievement declines and even worse, students turn to self-harm when they can no longer cope. As young lives hang in the balance, it is imperative that we develop an evidence-based approach to identifying these students early and providing services to meet their needs. Traumatic events, or Adverse Childhood Experiences (ACEs), can happen to children from all races, ages, and socioeconomic status and include exposure to physical, psychological, or sexual abuse; physical or emotional neglect; parental separation or divorce; natural disasters; victimization; violence; living with family members who are mentally ill, suicidal, or substance abusers; or a family history of poverty or incarceration.¹ In response to a traumatic event, a child may feel intense fear, horror, isolation, or helplessness.² Cognitive impacts can be significant, hinder academic success, and carry the potential for long-term mental and physical health issues.³ Repeated exposure overwhelms and alters brain development and functioning and impacts the body's stress-related physiological systems, compromising the stress-response systems (neuroimmune, neuroendocrine, autonomic, and central nervous system networks) and keeping them in a constant state of "high alert" which, long-term, damages mental, physical, social, and emotional well-being.⁴ Unfortunately, children in the US live in incredibly stressful circumstances where half to two-thirds will experience at least one traumatic event before age 18.⁵ Students currently in grades K-12 cannot recall a time when terrorism, school shootings, and economic and national insecurity were not the norm.⁶ A recent study of teens found that anxiety and depression (70%) were the leading problem among their peers.⁷ In the hyper-connected 21st Century, it is virtually impossible for students to turn off their connection to social media and give their still developing brains downtime.⁸ Worse still, social media outlets are often used by fellow students to harass, threaten, or ridicule others.⁹ It is not surprising then that recent studies have found dramatic increases in stress, depression, sadness, alienation, and anxiety in children.¹⁰ These students often develop chronic coping strategies which

present as behaviors ranging from hypervigilance, distrust, indifference, eating disorders, self-harm, substance abuse, or violent acts.¹¹ Nationally, the rate of mental illness continues to rise: almost half—49.5% of youth will have a diagnosable mental illness before age 18 with 22% suffering from serious mental impairment.¹² The most common psychiatric disorders ages 18 and under are anxiety (32%), attention-deficit hyperactivity (20%), depression and bipolar (14%) and eating disorders (3%), yet just 7% will receive treatment for their illnesses. The prevalence of major depressive episodes in youth has increased nationally from 8.7% in 2005 to 11.3% in 2014¹³ while suicides and suicidal ideation rates have doubled in the last 7 years with increases in all age groups and demographics.¹⁴ According to a recent report, witnessing or experiencing racism, discrimination, or prejudice can be traumatizing, resulting in behaviors such as increased suspicion, sensitivity to threat, and maladaptive responses such as increased aggression or substance-abuse and is especially acute for low-income youth living in urban areas where they are more likely to experience or witness violence.¹⁵ While school is often a refuge for students from the stresses of their home environment, students who have been exposed to trauma or who present with mental illnesses may feel anger, distrust, or fear towards authority figures.¹⁶ For students who are from racial minorities, identifying with their teachers can be problematic as 82% of K-12 teachers are Caucasian.¹⁷ When trauma causes emotional or psychological damage to a student, they adopt a set of behaviors or thinking patterns that can lead to re-traumatization in school settings where they act out in ways which violate school rules. In turn, they may receive punitive measures which increases the likelihood the student will suffer re-traumatization.¹⁸ Trauma-impacted students are more likely to perform below grade level, have lower GPAs, higher rates of discipline, and are at a greater risk of special education referrals.¹⁹ As one researcher noted, while not every student in a classroom has a significant trauma history, the needs of those who do can define and limit the academic success of all.²⁰ ❖ **North Carolina Significance:** Suicide is the 2nd leading cause of death in NC ages 15-34 and the 3rd leading cause of death among ages 10-14.²¹ Almost 1 in 10 high school students in NC attempted suicide in 2015 and adolescents experiencing

a major depressive episode between 2014-15 rose to 12% from 8% during the last reporting period.²² Closer to home, six of our students died from suicide over the past three years with two occurring since December and the youngest being only 10 years old.

2) Promising New Strategies Build on Existing Strategies. Iredell-Statesville Schools (I-SS) in NC, will take an innovative approach to improving student academic and behavioral outcomes for our district's highest risk students by reshaping our schools' culture, staff, and systems through implementation of: ❶ a trauma-informed systems approach paired with ❷ a trauma-specific interventional treatment approach using our existing multi-tiered system of supports (MTSS) framework via *RIPPLE: Reducing disparities and Implementing strategies to Promote Proactive Learning Environments*. Trauma-Informed Care (TIC) practices were first used in the US in the 1980s to treat post-traumatic stress experienced by military personnel and rape victims.²³ TIC has led to the development of several evidenced-based practices found to effectively treat trauma while helping to facilitate systemic changes in organizational policies and practices among implementing agencies.²⁴ Schools have long been seen as ideal entry access points for mental health services as students spend so much of their time in schools, making teachers and administrators well-positioned to recognize the symptoms and warning signs of mental health issues.²⁵ But to date, TIC has not been widely implemented in US school systems even though one study concluded that the extent of childhood adversity and trauma are so widespread that it is now one of the most critical public health concerns for children, thereby increasing both the relevancy and necessity of schools to implement a TIC approach.²⁶ Although few studies exist on TIC school-based programs and fewer still on TIC-MTSS approaches, initial studies have noted a range of positive academic and behavior outcomes including increases in the percentage of students meeting or exceeding benchmark targets in core academic subjects and decreased suspensions and expulsions.^{27,28,29,30} Use of TIC practices in the medical and social services fields have found implementation works best when embedded in flexible interventional models such as MTSS, that address a continuum of traumatic exposure including stressors and traumatic events.³¹ Multi-tiered frameworks have been

suggested as one avenue to effectively implement school-based TIC as they could provide earlier identification and interventions for students matched to their individual needs.^{32,33,34 35} MTSS works to create systemic changes schoolwide by addressing students' behavioral and academic needs and recognizing their reciprocal influence on one another. MTSS is a hybrid model combining the well-researched Response to Intervention (RtI) framework used to identify and implement interventions for academic issues and Positive Behavioral Interventions and Supports (PBIS) to address students' socio-emotional and behavioral needs.^{36,37} Layering trauma-informed approaches within our existing MTSS framework will allow school staff to better understand the range of behavioral and academic warning signs that students exposed to trauma may display.³⁸ I-SS will integrate a continuum of system-wide resources, strategies, structures, and practices, providing a comprehensive and responsive framework to systematically address the negative impacts and barriers that trauma and toxic stress present to student academic achievement.³⁹ We theorize that layering socio-emotional and academic supports in combination with trauma-informed interventions, will produce a greater impact than either a TIC or MTSS framework would have individually in producing positive academic and behavioral impacts. *RIPPLE* will help build protective factors in our students' lives which has been shown to reduce the impact of prior or continuing trauma.^{40,41} This in turn should lead to more positive behaviors and improvements in academic achievement both at the individual, classroom, and schoolwide levels.⁴² Our Trauma-Informed (TI) MTSS tiers will include: Tier 1, a universal approach with a core socio-emotional curriculum to build protective factors, serving all students and typically successful with 80-90% of students; Tier 2, supplemental instruction and interventions, typically in small-groups for the 5-15% of students who display difficulties; and Tier 3, intensive, individualized interventions for 1-5% of the students.⁴³ When well-implemented, MTSS has been shown to lead to improvements in academic and behavioral outcomes with one study estimating that the collective impact of MTSS could result in a 30-40% reduction in the prevalence of identified issues which suggest its promise as a vehicle for implementation of TIC approaches in our district's highest need schools.^{44,45}

B. QUALITY OF THE PROJECT DESIGN

1) **Goals, Objectives, and Outcomes.** *RIPPLE* goals, objectives, and outcomes are in Table 1.

Table 1. <i>RIPPLE</i> Goals and Objectives
Fidelity: <u>Cohort 1 (C1):</u> By the end of Year 1, <i>RIPPLE</i> schools will implement key program components with 75% fidelity or more, and 80% or more in each of Years 2-5. <u>Cohort 2 (C2):</u> 75% fidelity or more in Year 2; 80% or more in Years 3-5. Measure: Annual Fidelity Index.
Goal 1. <i>Use MTSS to implement a trauma-informed interventional approach.</i>
1.1 C1: Reduce the rate of ODRs per 100 students by 10% from baseline in Year 1, decreasing by an additional 5% each year or 30% overall. <u>C2:</u> 10% in Year 2 and 5% each year or 25% overall. Measure: Rate per 100 students, quarterly. Baseline: C1: 81/100; C2: 84/100.
1.2 C1: Reduce the ODR rate per 100 minority students by 10% from baseline in Year 1, decreasing by an additional 5% each year or 30% overall. <u>C2:</u> 10% in Year 2 and 5% each year or 25% overall. Measure: Rate per 100 students, quarterly. Baseline: C1: 93/100; C2: 147/100.
1.3 C1: Reduce the rate of OSS per 100 minority students by 10% from baseline in Year 1, decreasing by 5% each year or 30% overall. <u>C2:</u> 10% in Year 2 and 5% each year or 25% overall. Measure: Rate per 100 students, quarterly. Baseline: C1: 20/100; C2: 34/100.
1.4 C1: Reduce the average number of instructional days lost due to suspensions/expulsions by 10% from baseline in Year 1, decreasing by 5% each year or 30% overall. <u>C2:</u> 10% in Year 2 and 5% each year or 25% overall. Measure: Lost days, quarterly. Baseline: C1: 720; C2: 452.
1.5 Beginning in Year 1, an average of 80% of targeted students report membership in and satisfaction with Group Noticing Routine. Measure: Annual student survey. Baseline: Year 1.
1.6 C1: Increase the percentage of parents, students, and teachers who report positive perceptions of school climate identified via coded transcripts. Measure: Annual focus groups. Baseline: Y1.
1.7 C1: Increase by 10% annually the number of students meeting proficiency in math. Measure: NC Math EOG/Math I EOC. <u>C2:</u> Increase by 8% annually. Baseline: C1: 35%; C2: 52%.
1.8 C1: Increase by 10% annually the number of students meeting proficiency in ELA. Measure: NC ELA EOG/English II EOC. <u>C2:</u> Increase by 8% annually. Baseline: C1: 37% C2: 53%.
1.9 Each year, increase by 10% over baseline the percentage of students increasing positive responses to 4 scales of socioemotional learning (SEL). Measure: Panorama SEL Grades 3-12. Reliability across scales averaged 0.78; validity scales correlated as expected with a number of student outcomes, including GPA, absences, tardiness, behavioral referrals ⁴⁶ . Baseline: Year 1.
Goal 2. <i>Provide professional learning for educators.</i>
2.1 Each year, enhance Tier 1 practices, as evidenced by at least 75% of targeted staff receiving at least one individual coaching session. Measure: Quarterly coaching logs.
2.2 In Year 1, at least 80% of staff in <i>RIPPLE</i> schools will participate in at least two culturally responsive PL opportunities; at least one in Years 2 – 5. Measure: Quarterly attendance records.
2.3 In Year 1, at least 80% of staff in <i>RIPPLE</i> schools will participate in trauma-informed care PL opportunities; at least 90% in Years 2 – 5. Measure: Quarterly attendance records.
2.4 The average percentage of staff in <i>RIPPLE</i> schools reporting a “belief that all students can learn” <u>meets or exceeds</u> the district average each year. Measure: Annual I-SS School Climate Staff Survey. Baseline: District average of 90%.

Table 1. RIPPLE Goals and Objectives

2.5 In Year 1, at least 80% of staff in *RIPPLE* schools will report use of culturally responsive practices; increasing by 5% each year or until 100% report use. **Measure:** Culturally Responsive Teaching Survey⁴⁷ Cronbach's alpha is .781; notation of CR practice in coaching logs.

2.6 Each year, teachers will increase by 10% above baseline their perceptions of SEL, competencies to teach SEL, and the school climate. **Measure:** Panorama Teacher Survey; Reliability across scales averaged 0.78; validity scales correlated as expected with a number of student outcomes including GPA, absences, tardiness, behavioral referrals⁴⁸. **Baseline:** Year 1.

2) Conceptual Framework. *RIPPLE* addresses Priority 2: Field-Initiated Innovations-General.

Our project rationale (Priority 1) is provided in our logic model (*Appendix G*) and is based on our theory of change that: infusing trauma-informed practices embedded within our schools' existing MTSS framework, will reshape our schools' culture, staff, and systems and positively impact student academic achievement and behavioral outcomes. Our programs goals are: **1** *Use the MTSS structure to implement a trauma-informed interventional approach to improve educational outcomes for high-need K-12 students;* and **2** *Provide professional learning for educators to develop awareness and understanding of the impact trauma has on student achievement and behaviors building educators' capacity to recognize and implement a trauma-informed interventional approach for high-need students.* *RIPPLE* is designed to change the conversation in our schools from an approach that asks, "What's wrong with you?" to one that asks, "What happened to you?" I-SS will provide our teachers, leaders, and staff, with comprehensive professional learning in trauma-informed care to build their organizational competencies to understand and recognize the widespread impacts of trauma, its signs and symptoms, and how to create a safer, more consistent learning environment to help students exposed to trauma and chronic stress build resiliency.⁴⁹ Our teachers and staff will also learn ways to help students build critical socio-emotional skills and promote development of cognitive and problem-solving skills as trauma-impacted students often lag behind their peers in these areas critical for future academic achievement and positive life outcomes.⁵⁰ Professional learning will focus on how school staff can help students build more positive coping and self-management strategies to better build their resiliency and more positively process their complex emotions.⁵¹ Our use of MTSS as a framework

to introduce trauma-informed systems and interventional approaches is supported by research into implementation science which has found that new innovations are most successful when they use structures already existing in an organization and research specifically into TIC which suggested MTSS to be a promising framework for schoolwide implementation.^{52,53,54,55,56} We will test *RIPPLE* in our highest need schools, across three K-12 feeder patterns, and use an evaluation design to produce rigorous evidence, identifying which elements of implementation were most effective and cost-efficient, increasing our model's ability to be replicated across our district, and to other districts in our state and nation. Identification and replication of successful strategies to help recognize, treat, and ameliorate long-term impacts of trauma, in the short-term could raise academic achievement and educational attainment while long-term, dramatically decrease the numbers of students who suffer from trauma's devastating impacts which increase the likelihood of heart disease, cancer, substance abuse, and incarceration.^{57,58} Creation of a Trauma Informed (TI)-MTSS framework will allow students to receive a continuum of trauma-informed interventions, including universal screening to identify those with difficulties, and progress monitoring to determine if an intervention was successful.⁵⁹ ❖ **I-SS:** I-SS is among the 20 largest districts in North Carolina serving over 20,265 students in 36 schools uniquely situated in a variety of settings including urban, suburban, and rural.⁶⁰ Our student body includes 66% Caucasian, 14% African American, 13% Hispanic, 4% Two or more races, and 3% Asian; with 41% of students eligible for free/reduced lunch, and 11% with disabilities.^{61,62} In recent years, our district has seen dramatic increases in ❶ presentation of serious mental health issues including suicidal ideation with 4 student suicides in the last 18-months; ❷ aggressive student behaviors including increases in gang-related school violence, weapons including guns and knives brought to school, and assaults on students and school personnel; resulting in ❸ disruptive school environments leading to a decreased sense of student and teacher safety; and ❹ declines in student academic achievement. ❖ **High-Need Students:** *RIPPLE* will serve high-need students in our district's highest-need feeder patterns, as seen in Table 2, which encompass 21 schools serving 10,729 students.

Statesville HS Feeder	North Iredell HS Feeder	West Iredell HS Feeder	RIPPLE	District
68%	49%	68%	62%	41%

We will serve our highest poverty schools because poverty often presents a barrier to parents’ ability to provide mental health care for their children due to lack of insurance, inability to afford care, or lack of understanding to access care.^{64,65} Stigmas around mental illnesses present barriers to treatment⁶⁶ and untreated mental, emotional, and behavioral difficulties lessen students’ ability to participate in the educational process and negatively impact the classroom environment.⁶⁷

❖ **Behavior:** Our target schools have higher rates of aggressive behaviors, detailed in Table 3.

2017-18	Middle	High
RIPPLE Schools	1.09	2.22
Iredell-Statesville Schools	0.68	1.42
NC	0.79	1.21

Our 2018-19 mid-year reports show that these 21 schools have an average incident rate of in- and out-of-school suspensions (ISS/OSS) of 107 per school, compared to just 48 in our non-target schools.⁶⁹ Almost 79% of the 3,524 ISS/OSS occurred in RIPPLE schools.⁷⁰ Short-term suspension rates also outpace both the district and state.

2016-17 [latest data for state]	Middle	High
RIPPLE Schools	21.0	21.7
Iredell-Statesville Schools	14.2	11.8
NC	20.6	17.8

The most frequent referrals were for insubordination, language, disruptive behavior, and cutting class. Indicators

such as these are often warning signs for trauma impacts in a students’ life and can result in inconsistent disciplinary actions due to teachers’ lack of knowledge of the impacts of trauma and mental illness.^{72,73} These rates are alarming as students who are suspended are more likely to drop out of school and become part of the juvenile justice system.⁷⁴

❖ **Academic Signs:** Trauma also negatively impacts academics, and as seen below, target students lag behind the district and state.

Measure	North HS	Statesville HS	West HS	District	NC
SAT Composite	1073	1008	1040	1114	1074
ACT Composite Mean	17.4	15.3	16.7	19.1	18.6
% Below Proficiency Biology	61.7	76.3	53.5	45.6	43.9
% Below Proficiency English II	51.2	58.3	47.8	37.7	39.3
% Below Proficiency in Math I	56.4	74.0	61.0	34.4	35.7

We designed *RIPPLE* using best practices on trauma-informed care, our prior MTSS experience, and use of data to identify specific gaps. Table 6 provides an overview of issues, activities to address those issues, and program goals addressed by *RIPPLE* program components.

Table 6. Identified Gaps of Target Population Linked to Project Design		
Problems	Applicable Program Goals and Strategies	Goal
Increased mental health issues	<ul style="list-style-type: none"> • Develop an integrated K-12 trauma-informed care approach • Enhance TI-MTSS framework by refining policies • Form and convene intensive school-based TI-MTSS teams • Conduct universal screening to identify student needs • Enhance use of restorative, culturally responsive practices 	1
Increased aggressive behaviors and criminal incidents	<ul style="list-style-type: none"> • Link behavioral and academic supports through MTSS • Implement Capturing Kids Hearts & Safe School Ambassadors • Create peer support via Group Noticing Routines • Provide SAP counseling sessions and PDSA plans • Deliver life skills and college prep via Crosby Scholars 	
Declines in school climate and student achievement	<ul style="list-style-type: none"> • Provide teachers and school leaders with professional learning in TIC signs and symptoms for earlier identification of potential issues and in culturally responsive teaching 	2

RIPPLE was developed using recommendations by the National Child Traumatic Stress Network which identified 7 elements for trauma-informed systems: ❶ Routine screening for trauma exposure; ❷ Culturally appropriate, evidence-based assessments and treatments; ❸ Resources for students, families, and staff on trauma, its impact, and treatment; ❹ Use of a strengths-based approach for students impacted by trauma; ❺ Addressing parent trauma; ❻ Collaboration across child-serving systems; and ❼ Supporting staff by minimizing secondary traumatic stress, which can lead to burnout.⁷⁶ As detailed in our GEPA statement, *RIPPLE* strategies are designed to ensure all participants receive equal access. Our management team will study discipline data quarterly and develop a plan to promote fair and effective trauma-informed disciplinary practices. We will review districtwide student codes of conduct to propose viable alternatives to removing students from the classroom, engaging administrators, teachers, students, and parents in policy revisions. ❖ **Scale-Up:** We strategically selected schools for each Cohort based on pilot strategies in place. Cohort 1 schools have experience implementing Tier 1 programs: Second Step (K-5), Safe School Ambassadors (6-8), Capturing Kids Hearts (6-12), and Restorative Justice (6-12).

Table 7. Pilot and Scale-Up Phased Implementation

Cohort	Schools	Year 1	Year 2	Years 3-5
C1: Pilot	Cloverleaf, East, Third Creek ES; East, Statesville MS; North HS	Pilot, Refine	Implement, Evaluate	Implement, Evaluate & Sustain
C2: Scale- Up	Celeste Henkel, Central, Cool Spring, Harmony, NB Mills, Scotts, Sharon, Troutman, Union Grove ES; North, Troutman, West MS; Statesville, West HS; Pressly Alternative School	Baseline Data, Training	Add in Strategies	

Goal 1: Use the MTSS structure to implement a trauma-informed interventional approach to improve educational outcomes for high-need K-12 students.

❖ **Goal 1 Activities:** *RIPPLE* elements will be layered on our district’s existing MTSS framework to better support delivery of our trauma-informed interventional approach, outlined below.

❖ **Tier 1:** Trauma-informed schools recognize many problematic student behaviors reflect a developmental response to experiences rather than willful, purposeful misbehavior.⁷⁷ *RIPPLE* will use universal screening, to identify students demonstrating internalizing and externalizing behaviors, which are correlated to at-risk status.⁷⁸ This will include Adverse Childhood Experiences assessment for grades 9-12 assessed as at-risk, Positive and Negative Affect Scale, Child Version⁷⁹ for grades 4-8 and Child Rating Scale for grades K-8 which assess affective expressions of anxiety or depression, frequent warning signs for trauma.^{80,81} Universal screening reduces the likelihood of undetected risk and identifies areas for intervention and a comparison baseline for interventions.⁸² ❶ **Behavioral Specialists:** *RIPPLE* will refine and expand our current Behavior Education Program and add a full-time Behavioral Specialist to work with social workers, counselors, and teachers in each school to assess student behavior, develop or identify existing functional behavior assessments, and create Behavior Intervention Plans for students identified at-risk. ❷ **Social Workers:** *RIPPLE* will expand students’ access to licensed, clinical social workers. The addition of two full-time positions will provide students with wraparound coordination that targets the students’ out-of-school needs. School social work services should be provided at a ratio of 1:250 students; however, our ratio is 1:6,755. When a school social worker is providing services to students with intensive needs, a lower ratio, such as 1:50, is suggested.⁸³

③ Second Step (K-5): RIPPLE will implement Second Step for our elementary students. Supports focused on positive behavior, efforts to improve school safety and connectedness, restorative practices, and trauma-informed approaches are helpful in providing care and support to traumatized students.⁸⁴ Second Step is a universal, classroom-based program for K-5, designed to increase school success and decrease problem behaviors by promoting social–emotional competence and self-regulation. Second Step social–emotional learning curriculum emphasizes skills to strengthen students’ ability to learn, manage emotions, develop empathy and caring, and problem-solve. There are separate curricula for each grade so that instruction is developmentally appropriate and relevant for K-5 students with lessons across 4 units: 1) Skills for Learning, 2) Empathy, 3) Emotion Management, and 4) Problem Solving. Second Step has been identified as an effective, evidenced based program by SAMHSA with promising results in reducing disruptive behavior, internalizing problems, and attention disorders, and increasing self-regulation, social connectedness and competence.⁸⁵

④ Safe School Ambassadors (SSA) (6-12): RIPPLE will scale up the existing SSA Program to our target high schools and North Middle as our other target middle schools have already trained ambassadors and educators. SSA is a field-tested, evidence-based program that engages bystander students to prevent and stop bullying. Staff and student surveys are used to identify student leaders who have a history of standing up for other students.⁸⁶ An evaluation of SSA found: 1) an increase in male Ambassador bystanders’ intervention in school bullying, 2) improved school climate, and 3) a 33% decrease in schools pre-SSA suspension rates, while comparison schools saw a 10% increase.⁸⁷

⑤ Anonymous Alerts (K-12): RIPPLE will purchase and launch the app-based incident reporting system in all target schools. Anonymous Alerts is an anonymous incident reporting system that is used by students, parents, and staff to report concerns such as bullying, depression, drug or alcohol use, family problems, gang activity, and self-harm.⁸⁸ The app allows school officials to establish anonymous two-way communication with the individual reporting suspicious activity.

⑥ Group Noticing Routines (GNRs): We will implement GNRs, a process by which student teams are formed; exchange contact information;

and are then responsible for contacting absent students to relay important information and encourage attendance.⁸⁹ GNRs will be used in grades 7-12 to promote supportive, emotionally positive classrooms to reduce displays of problem behaviors.⁹⁰ A positive classroom environment creates a safe space for students, creating more high-quality teacher–student and student–student interactions and provides a scaffolding for higher-intensity SEL and trauma-informed interventions.⁹¹ Clear expectations and predictable routines support self-regulation and encourage students to exhibit self-control.⁹² GNRs draw on research showing the importance of developing social ties, and that early engagement with informal student networks is highly predictive of student learning.⁹³

⑦ Capturing Kids Hearts (CKH): A National Registry of Evidence-based Programs and Practices recognized program, currently implemented at 3 pilot schools, trains educators to create high-achieving centers of learning by strengthening students’ connectedness to others by enhancing bonds with their teachers and establishing collaborative agreements of acceptable behavior.⁹⁴ Through *RIPPLE*, we will scale to 6 secondary schools. A recent study found that CKH produced a 41% increase in students’ acquisition of pro-social skills and a 33% decrease in discipline referrals than control schools.⁹⁵ CKH will provide teachers with professional learning (PL) on teaching relational and problem-solving skills, promoting engagement, and setting expectations.⁹⁶ This will lead to improved classroom environments and more supportive and productive relationships with students.⁹⁷

⑧ Restorative Justice (RJ): *RIPPLE* middle and high schools will participate in a RJ school climate change process that refocuses disciplinary measures away from a punitive approach and towards prevention of misbehavior.⁹⁸ Designed to transform school environments through peer mediation, group responsibility, and counseling, RJ uses a school-wide assessment and PL for faculty on restorative practices to build a community of trust.⁹⁹ This process supports elements such as increasing interactions with students, using affective statements or expressions of feeling in response to behaviors, and implementing fair processes.¹⁰⁰ Findings from high-poverty, high-minority secondary schools applying RJ showed significant declines in violent acts, referrals, and suspensions, with improvements in school climate.¹⁰¹

❖ **Tier 2:** Our Student Assistance Program Coordinators (SAPs) will facilitate Tier 2 small group sessions for students exhibiting difficulties in conjunction with mental health specialists from our partner, *Children's Hope Alliance*, a non-profit that provides outpatient therapeutic services including evaluations, individual, group, and family therapy, and trauma-focused cognitive behavioral therapy. At the elementary level this will include use of Second Step small-group sessions, and at our middle and high schools, SSET-Trauma approaches (below). Our Behavioral Specialists (BSs) will support implementation by coaching, modeling, training, and conducting fidelity checks. ❶ Support for Students Exposed to Trauma Cognitive Behavioral Therapy: At the secondary level, *RIPPLE* will implement SSET small-group sessions for trauma-impacted students suffering from symptoms of post-traumatic stress disorder. SSET was designed for use by teachers and counselors, and is a non-clinical adaptation of the Cognitive Behavioral Intervention for Trauma in Schools (CBITS) Program and uses many of the same cognitive and behavioral skills as CBITS, such as problem solving, psychoeducation, and relaxation.¹⁰² SSET consists of 10 lessons designed to reduce post-traumatic and depressive symptoms and improve functioning in trauma-exposed secondary school students.¹⁰³ One study found reductions in trauma symptoms, with those having a high level of symptoms before taking SSET benefitting the most.¹⁰⁴ ❷ Student Assistance Program (SAP): At the secondary level, *RIPPLE* will expand our SAP which provides quality services to enhance students' social, emotional, and physical well-being. SAP Coordinators in each school train staff to recognize problems, plan interventions, and work with providers to coordinate services. SAPs help students create Plan, Do, Study, Act plans: PLAN: clarify the need, purpose, and measures; DO: adopt and deploy an approach to continual improvement; STUDY: analyze results; and ACT: make improvements. SAPs will work closely with school-level, district-funded BSs and IFs, to ensure cross-collaboration for success between our behavioral and academic interventions. ❸ Crosby Scholars, a mentoring and college access program, which focuses on preparing students academically, financially, and personally for college enrollment and post-secondary employment, will be available to our target middle and high school

students. Crosby Scholars Advisors will meet with students and provide strategies on life skills and behavioral expectations to help students achieve their post-secondary goals. A study of a similar model, implementing college access and readiness workshops coupled with individualized support of an adult advocate, demonstrated a 20-percentage point difference in college enrollment during the first semester after graduation than non-intervention students.¹⁰⁵ Goodwill Industries of NW-NC will provide matching funds to support expenses for the program at *RIPPLE* schools, equal to \$10,000/year (*Appendix C*). ❖ **Tier 3:** Tier 3 interventions will be at the individual level and include: ❶ Trauma-Focused Cognitive Behavioral Therapy (TF-CBT): Behavioral Specialists will receive training from the National Child Traumatic Stress Network in implementing the trauma-sensitive interventions evidence-based model for adolescents experiencing trauma.¹⁰⁶ TF-CBT is a components-based treatment model that incorporates trauma-sensitive interventions with cognitive behavioral, family, and humanistic principles and techniques. Evidence for TF-CBT has proven successful with children who have significant emotional problems (e.g., post-traumatic stress, anxiety, depression) related to traumatic life events. It can be used with children who have experienced one or multiple traumas.¹⁰⁷ ❷ CBT: I-SS will use our ongoing partnership with *Children's Hope Alliance* to provide trauma-informed CBT counseling for high-risk students. *Easterseals UCP*, a local nonprofit, will provide need-based services to students including: 1) Emergency services; 2) In-kind daytime treatment at schools by mental health professionals; 3) In-home family therapy; 4) Residential services; and 5) Therapeutic foster care. ❸ Functional Behavior Support Planning (F-BSP): After completing a functional behavior assessment to determine the “why” behind negative behaviors, our behavioral therapists will develop a plan to provide the social and academic interventions to meet the assessed need.¹⁰⁸ Evidence contained in seven single-case design studies on Functional Behavior Assessment-based Interventions in functional behavior support plans **were found to meet What Works Clearinghouse standards without reservations**, with potentially positive effects on school engagement and problem behavior for children identified with or at risk for an emotional disturbances.¹⁰⁹ Behavioral

Specialists will assist with behavior plans and behavior management strategies.

❖ **Data Teams:** We will convene School-Based TI-MTSS teams monthly and the Management Team quarterly to study progress monitoring data and disciplinary action reports to identify students who may need services, identify the effectiveness of interventions, and enhance MTSS/TIC implementation. This will include quarterly Data Days to review lessons learned and disseminate reporting on student indicators. School TI-MTSS teams and district data teams will examine the results of school-wide trauma screening to determine what percentage of the students may be experiencing chronic stress, exposed to violence, or at-risk for trauma-related symptoms.¹¹⁰

Goal 2: Provide professional learning for educators to develop awareness and understanding of the impact trauma has on student achievement and behaviors building educators' capacity to recognize and implement a trauma-informed interventional approach.

❖ **Goal 2 Activities** include ❶ **Professional Learning (PL):** Our teachers and administrators will receive PL designed to increase their understanding of and ability to use TIC principles in their classrooms. *RIPPLE* will create consistency across grade levels by implementing a K-12 curricular continuum to develop a shared, integrated approach and common language around TIC across all levels in our district. *RIPPLE* educators will receive PL in Years 1-2, with refresher courses in Years 3-5 on TIC, and its implementation through MTSS. This will include culturally-responsive instructional practices and Tier 1 socio-emotional curriculums such as Safe School Ambassadors, Capturing Kids Hearts, and Restorative Justice. In Year 1, five staff members from each school will be trained in Trauma Informed Care and will then provide educator in-service training to their grade-level teams. All counselors and SAPs will be required to complete the Support for Students Exposed to Trauma training. In Year 1, we will have five therapists trained in Trauma Focused CBT. Our train-the-trainer model will support sustainability by transitioning schools from intensive MTSS-based TIC coaching to operating independently using the infrastructure and materials developed during *RIPPLE*. PL, mentoring, and coaching will be embedded into each school's existing planning times, early release days, summer planning, and faculty meetings.

❷ **Cultural Responsiveness:** *RIPPLE* will address underlying issues that often affect teachers'

expectations and perceptions of student performance by providing a cultural responsiveness training designed to raise consciousness and change behavior. It will integrate issues of race, ethnicity and culture to reduce disproportionality and ensure that activities and outcomes equally benefit all students. Cultural congruence includes factors such as content relevant to students' lives; inclusion of the students' home language; and a connection between the pedagogy used in classrooms and teaching methods familiar to students.¹¹¹ By making instruction and SEL more congruent with the cultural value systems of a diverse student population, we can build on cultural experiences to make learning more relevant. A teacher's social-emotional learning awareness contributes to a positive emotional climate in the classroom as teachers who are knowledgeable about their own emotions are better able to empathize with a student's emotional reaction.¹¹² A positive school climate lessens teacher burnout while increasing retention because teachers are more committed and believe that they can positively affect student learning.¹¹³ Cultures that are characterized by trust, teacher efficacy, and academic emphasis have positive effects on student achievement beyond the effects of demographic characteristics such as socio-economic status.¹¹⁴ Through these mechanisms, we aim to shift mindsets at all levels: developing administrators who support teachers' learning and are willing to learn with their staff; teachers who believe in the potential of all students to learn and succeed and who communicate this through their practices; and students who believe in their own abilities to succeed. ③ **Coaching:** Instructional Facilitators and Behavioral Specialists will provide coaching and mentoring in best practices of TIC in our professional learning communities which meet by grade- or subject-level weekly. We will use Tell-Show-Practice Coaching, a peer training approach to build sustainability in each school.

3) Feedback and Continuous Improvement. *RIPPLE* includes multiple mechanisms and data-based procedures to make informed decisions that will ensure high-quality services and support sustainability. ① **TI-MTSS Meetings:** Each school's TI-MTSS team will meet monthly to share best practices, address issues, and problem-solve. Each team will monitor progress and use timely data to ensure feedback is included from stakeholders. A TI-Implementation Checklist will be used

quarterly to analyze activities to assess prevention, classroom support, information systems, commitment, and expectations. TI-MTSS teams will use a 4-step problem-solving cycle, regularly reviewing behavior and academic data to identify trends, design interventions, make referrals, ensure fidelity, and assess effectiveness: 1) Gap analysis, 2) Problem analysis, 3) Intervention planning guides, 4) Response assessment. ❷ Evaluation: A participatory approach to evaluation (*Section D*) will ensure data is used regularly to refine implementation and make programmatic changes. Through continuous monitoring, the evaluator will provide periodic feedback to each school and will triangulate data to provide a synthesis of program-wide data. An evaluator-developed fidelity index will allow for examination of implementation fidelity. ❸ Logic Model: To monitor efforts and avoid program drift, we will employ a logic model to provide stakeholders with an understanding of the crucial program components. The model provides a logical base from which to conduct the monitoring, spells out desired outcomes, and dissects the critical pieces of our plan, including inputs, strategies, outputs, and outcomes. Our logic model (*Appendix G*), includes a built-in feedback loop emphasizing the provision of actionable feedback to facilitate informed decision-making. The logic model will be revisited quarterly to assess fidelity between our model *in theory* and *in action*. Each meeting will conclude with a written plan identifying areas needing improvement and actions to be taken. ❹ Data Days: The Management Team (MT) will meet quarterly to review data from each TI-MTSS team and from our evaluator to promote a shared understanding of *RIPPLE*'s goals; allocate resources; review implementation; guide decision-making; and ensure continuous improvement. As described in Table 1, our objectives have clearly defined benchmarks that will be used to assess our progress. Meeting (or not meeting) benchmarks in any given year will identify our areas of success and those in need of improvement. This will allow the MT and TI-MTSS teams to make course corrections. ❺ Systems Check: Our continuous improvement plan includes a "Systems Check," conducted by our Board of Education via mid- and end-of-year reviews to assess progress on attainment of goals. Through this Systems Check, strategies will be reviewed in correlation with district efforts. ❻ Stakeholder Perspectives: I-SS has

a robust level of parental involvement as evidenced by a 91% participation rate for parent-teacher conferences, districtwide. In addition to the feedback loop created by these conferences, parents and students are involved in district problem solving, serving as members of School Improvement Teams. We will conduct annual student, teacher, and parent surveys, providing insight into our program. Continuous improvement will be supported through our Performance Excellence Model wherein every school, department, and teacher completes an improvement plan.

C. ADEQUACY OF RESOURCES AND QUALITY OF THE MANAGEMENT PLAN

1) **Adequacy of Management Plan.** We designed *RIPPLE* with structures to monitor activities and ensure fidelity (*Appendix B: Resumes, Job Descriptions*): Our Management Team (MT) will be comprised of our Project Advisor (PA), Project Director (PD); Project Coordinator (PC); and Deputy Superintendent. This team will meet monthly during the start-up, and quarterly thereafter to provide fiscal and programmatic oversight to guide implementation, including hiring staff. Student Assistance Program Coordinators (SAPs) will provide services to enhance school climate including providing PL on warning signs, planning appropriate interventions, and serving in a student advocacy role. In Years 1-2, we will employ 2 SAPs to support our 6 pilot schools, increasing to 5 SAPs in Years 3-5 as we scale up to 15 more schools. SAPs will work with district Behavioral Specialists (BS) and school Instructional Facilitators (IF), to ensure collaboration and a shared vision for success between behavior and academic interventions. BS work with social workers, counselors and teachers to assess behavior, develop functional behavior assessments, and create behavior intervention plans. In Years 1-5, *RIPPLE* will employ an additional BS bringing the number of BS serving our target schools to two. IF are building-level coaches at each school who support teachers and students by sharing strategies, modeling lessons, recognizing success, and facilitating PL. Social Workers (SW) will work in collaboration with counselors, teachers, and BS to identify students with out-of-school needs that are affecting their academic progress and coordinate wraparound supports. *RIPPLE* will employ two additional SW in our target schools, bringing the district total to five. School-based TI-MTSS Teams comprised of the Principal, AP,

nurse, teachers, SW, BS, IF, SAP and Counselor, will lead school implementation and build capacity for a sustained TI-MTSS framework. TI-MTSS Teams will participate in an annual Summer Institute to update plans and train teachers before school starts. TI-MTSS Teams will identify issues and implement plans to improve safety, SEL, academics, and engagement.¹¹⁵ Consultants will provide specialized services including evaluation, capacity building, and PL.

Table 8. RIPPLE Management Plan		
Task (C1 = Cohort 1; C2 = Cohort 2)	Responsibility	Timeframe
Year 1 Foundational Period (10/19-12/19)		
Compile C1 baseline data for program objectives	Evaluator	10/19-11/19
Train Crosby Scholar Advisors and begin activities	Crosby Scholars	
Continue CKH classroom strategies at C1 schools	MTSS Teams	
Procure contractual PL, technical assistance providers	PA, PD, PC	
Complete EIR required management/evaluation plans	PD, PC, Evaluator	
Hire and train SAP, SW, and BS	PA	10/19-1/20
Begin monthly Management Team (MT) meetings	PA	10/19-2/20
Begin monthly TI-MTSS Team meetings at C1 schools	MTSS Teams	10/19, monthly
Review disproportionality data and create action plan	MT	10/19, quarterly
Assess progress towards meeting goals and update MT	Evaluator	
Coordinate PL activities with C1 schools and partners	PD, PC	11/19, ongoing
Provide MT with updates on program progress	Evaluator, PD, PC	12/19, quarterly
Refine district disciplinary practices	MT	By 12/19
Support student PDSA plans	SAP	12/19, ongoing
Year 1 Phased Implementation Activities (1/20-9/20)		
Refine and disseminate TI-MTSS Manual	MT, PD, PC	1/20-2/20
Begin monthly TI-MTSS Team meetings at C2 schools	MTSS Teams	1/20, monthly
Coordinate PL activities with C2 schools and partners	PD, PC	1/20, ongoing
Provide Cultural Responsiveness Training for C1 & C2	PD, IF, BS	2/20, ongoing
Support C1 behavioral interventions via MTSS	SAP, BS	
Begin PL, mentoring, and coaching with C1 PLCs	IF, BS	
Begin RJ mentoring and classes with C1 students	RJ Facilitators	
Initiate Group Noticing Routines in C1 classrooms	MTSS Teams	
Compile C2 baseline data for program objectives	Evaluator	By 4/20
Convene MT to assess implementation data	PA	5/20, quarterly
Attend Annual EIR PD Meeting	PD, PC, Evaluator	6/20, annually
Host Trauma In-service for C1 & C2 schools	PD, IF, BS	6/20-8/20
Conduct SSET Training for SAPs & School Counselors	PD, SAP, SC	
Attend Trauma Focused CBT for 5 Therapists	PD, Therapists	
Conduct Restorative Justice Training for C1 & C2	RJ, PD, IF, BS	
Begin PL, mentoring, and coaching with C2 PLCs	IF, BS	8/20, ongoing
Support C2 behavioral interventions via MTSS	SAP, BS	
Year 2 Phased Implementation Activities (10/20-9/21)		

Table 8. RIPPLE Management Plan

Host CKH 2-day Process Champions Training for C2	PD, MTSS Teams	10/20
Host SSA Training	PD, Students	
Collect and compare post-data to baseline	Evaluator	10/20, annually
Complete EIR annual performance report	PD, Evaluator	
Begin CKH classroom strategies at C2 schools	PC, MTSS Teams	10/20, ongoing
Begin RJ mentoring and classes with C2 students	RJ Facilitators	1/21, ongoing
Initiate Group Noticing Routines in C2 classrooms	TI-MTSS Teams	2/21, ongoing
Years 3-5 Full Implementation (10/21-9/24)		
Continue and refine project activities from above years	All	10/21, ongoing
Host TI-MTSS Summer Institute & Refresher Training	PD, IFs, BSs	8/22, annually
Convene replication/dissemination planning meetings	MT	10/22, quarterly
Analyze 3-year effect on student achievement	Evaluator	10/23-9/24
Create a plan for sustainability and Replication Guide	MT, consultant	10/23-9/24
Complete EIR final performance report	PD, Evaluator	By 12/24

2) **Qualifications.** ❶ With a Master’s in Counseling and 20 years of experience providing support to teachers, training faculty, and leading federal grant initiatives, Kelly Marcy, ED of Student Services, will serve as Project Advisor (.15 FTE). ❷ With a Master’s in Social Work and a decade of experience in the mental health field, Jessica Smith, our MTSS Behavior Coordinator, will transition to the role of Project Director (.65 FTE). Jessica will oversee day-to-day operations, fiscal management, coordination of PL, collaborate with evaluator and partners, and develop dissemination, and sustainability plans. ❸ With a Master’s in Special Education and 15 years of experience in special education and Title I, Doug Barrett, our MTSS Coordinator, will transition to the role of Project Coordinator (PC) (.65 FTE), responsible for the roll-out of implementation. He will spearhead family engagement, organize Crosby Scholars, and cultivate partnerships. As evidence of our commitment, I-SS will contribute 65% of the salaries and fringe benefits for our PD and PC positions as matching funds. ❹ SAP Coordinators (SAP) have a Master’s degree in Social Work or Counseling and two years of experience in the mental health field. ❺ Behavioral Specialists (BS) have a Master’s in Social Work or Counseling, experience working with children, knowledge and experience in conducting Functional Behavioral Assessments, and use of behavior management techniques. ❻ Instructional Facilitators (IF) have a Bachelor’s degree, five years’ classroom experience, and experience in curriculum and instruction, staff development, coaching,

and knowledge of NC Standards. ⑦ Social Workers (SW) have at least a Bachelor's degree in Social Work, licensure, and experience connecting students with intervention with services.

3) Post-Grant Support. We are committed to sustaining *RIPPLE* beyond the grant as we are providing the Project Advisor, Director, and Coordinator in-kind and will continue funding them after the grant, and we are exceeding the match at over 15%. ① Evaluation: *RIPPLE* will work to evaluate effectiveness and efficacy. We will determine the most successful components and work to secure partner commitments or local resources to sustain those components. Our evaluator will make available the results of the work by presenting findings on our district website and via Educational Resources Information Center (ERIC). ② Share Results: I-SS will maintain a robust recordkeeping system that allows us to provide performance data to the public and future partners. The effectiveness, successes, and challenges of *RIPPLE*'s strategies will be documented in our Curriculum and Replication Guide, which will inform our district in achieving an integrated model for grades K-12 that can be replicated across the nation. Compiled by our Management Team, the guide will include integration of TIC, MTSS, CKH, SSA, CRT, and RJ curricula. We will engage in a sustainability planning process to determine how to sustain key components, which will be included in the guide. ③ Professional Development: Our train-the-trainer models and materials will allow us to embed strategies in the district post grant and continue to train new teachers in TIC, MTSS, CKH, SSA, CRT, and RJ. ④ Maintain and Expand Partners: Goodwill Industries/Crosby Scholars has committed to continuing to lend their financial support to *RIPPLE* beyond the grant period. Easterseals and Children's Hope Alliance are longstanding partnerships that are committed to providing services during and after the grant program. We will continue to build new partnerships and ask organizations to donate their time and talents. ⑤ Disseminate Findings: We participate in dissemination activities by sharing best practices to support sustainability and so other districts can tailor our program to their needs including presentations at the *National Child Trauma Conference*, *National Social Workers Conference*, and *Advancement of Teaching's Annual Summit*; grantee and educator communities of practice; and site visits for other districts.

D. QUALITY OF THE PROJECT EVALUATION

1) **Evidence of Effectiveness.** Our impact evaluation study will test the effectiveness of the *RIPPLE* model at increasing student outcomes through the following confirmatory research question: What is the impact of *RIPPLE* on the academic achievement of students after three years of programming? Beginning in Year 1 (2019-20) with Cohort 1 schools, *RIPPLE* will employ a rigorous longitudinal impact study that **meets the What Works Clearinghouse (WWC) 4.0 evidence standards with reservations** to provide a moderate level of evidence assessing the effectiveness of the *RIPPLE* model. An a priori power analysis (*Appendix I*) indicates our study has enough power to test for statistically significant program effects on math and English (MDES = .32, $\alpha = .05$). ❖ **The Comparative Short Interrupted Time Series (CSITS)** design is suited to assess impacts of whole-school initiatives¹¹⁶ and has been shown to produce unbiased estimates of program effects¹¹⁷ by comparing the change over time in schools that adopt an intervention with corresponding schools that do not adopt an intervention. We will use a CSITS design to assess the impact of *RIPPLE* on the rate of academic achievement in math and English after 3 program years, comparing 6 Cohort 1 schools and 14 Cohort 2 schools with 60 similar comparison schools in NC. We excluded the alternative school served in Cohort 2 based on qualitative differences from other treatment schools. Comparison schools will be selected using a 1:3 nearest neighbor propensity score matching model without replacement. The pool of possible comparison schools will include all public NC schools that are not included in the treatment group. The PSM is designed to increase generalizability to other NC schools and will include key variables, such as baseline test scores, free and reduced lunch rate, percent of minority group students, gender, geographic location, pupil-teacher ratio, and enrollment. Academic achievement in math and English will use the NC standardized EOG or EOC exams. We will use school-level mean standard scores on NC EOG tests in math and English from multiple pre-intervention years (2014-19) to test ***baseline equivalence of the treatment and comparison groups***. Data from the grade-level cohorts will be pooled and compared at the end of 2023-24 after the program has been in effect for 3 years in

Cohort 1 and 2 schools. Little to no school attrition is anticipated. Outcome data for the CSITS will be analyzed using a 3-level model with repeated observations over time (level 1) on grades (level 2) nested in schools (level 3). Effect sizes will be computed, and exploratory analyses will be reported for grade, gender, ethnicity, and disability. The impact model is below:

$$\begin{aligned}
 Y_{ijk} = & \beta_0 + \beta_1 \text{Treatment}_k + \beta_2 \text{TreatmentYear}_{ik} + \beta_3 \text{Treatment}_k \text{TreatmentYear}_{ik} \\
 & + \beta_4 \text{BaselineScore}_{jk} + \beta_5 \text{FreeReducedLunch}_k + \beta_6 \text{MinorityStatus}_{jk} \\
 & + \beta_7 \text{Gender}_{jk} + \beta_8 \text{RuralStatus}_k + \beta_9 \text{PupilTeacherRatio}_k + \beta_{10} \text{Enrollment}_{jk} \\
 & + \beta_{11} \text{Cohort}_k + \beta_{12} \text{Grade}_{jk} + \mu_j^{\text{Schools}} + r_{jk}^{\text{Grades}} + \epsilon_{ijk}^{\text{Years}}
 \end{aligned}$$

Table 9. Summary of Design Parameters for Confirmatory Studies	
Parameters	Study Design: CSITS
School Level	Elementary – High (Grades K - 12)
Unit of Analysis	Grades nested in schools
Sample Size	80 schools (20 <i>RIPPLE</i> , 60 comparison, little to no expected attrition)
Confirmatory Outcome(s)	Academic achievement in Grade 3-10 (Measures: EOG math and English language arts; EOC Math I and English II)
Propensity Score Matching Covariates	Baseline EOC/EOG English and math scores, FRL (% of students receiving free or reduced lunch), minority status (% of students who are minorities), gender (% of female students), rural status (1 = rural school or 0 = not a rural school), Pupil-Teacher Ratio at school, and school enrollment
Statistical Analysis	Confirmatory: Three-level HLM model with repeated observations over years (level 1) with multiple grades (level 2) nested in schools (level 3)
MDES	.32, alpha .05, power .80 (<i>Appendix I</i>)

Our evaluation will test if *RIPPLE* has the intended impact and determine effective strategies to sustain and replicate. Our *exploratory analysis* will explore: What is the impact of *RIPPLE* on the rate of exclusionary discipline incidents for minority students after 3, 4, and 5 years?

2) Replication. To support replication, our process evaluation will explore: ❶ To what extent was *RIPPLE* implemented with fidelity? ❷ What components are most suitable for replication in other settings? ❸ What are the strengths of and barriers to implementation? In Year 1 we will launch a longitudinal fidelity of implementation study to track, document, and assess the extent to which implementation aligns with proposed implementation. Our MT, evaluator, and subject-area experts developed the Fidelity Index (*Appendix I*) with two components that align with the goals and strategies in the logic model. Within each component, fidelity scores will be based on quantitative

and qualitative indicators of *Adherence* (e.g., minutes), *Exposure* (e.g., PD sessions), *Quality* (e.g., coaching) and *Responsiveness* (e.g., surveys).¹¹⁸ Thresholds have been established a priori based on baseline data, scaling targets (Table 1), and input from subject-area experts. Component fidelity scores will be summed to compute an overall fidelity index. To understand the components of *RIPPLE* fidelity in the context of behavioral outcomes, an exploratory hierarchical linear regression will be run with component scale scores used as predictors for exclusionary discipline actions. In Year 2, we will use Year 1 findings to support replication in Cohort 2 schools. Our evaluator will chart actual progress against targets to support iterative development and generalizability to other districts. Identification of barriers and facilitators to implementation through annual focus groups will lead to timely adjustments. After selecting comparison schools, we will request that each principal complete a survey to assess whether comparison schools received similar interventions. Schools that indicate similar strategies will be replaced by another school so that comparison schools have a fidelity index of zero (no treatment).

3) Valid and Reliable Data. Our quasi-experimental design will use a mixed-methods evaluation approach that combines quantitative and qualitative data sources (Table 1) from multiple reporters for triangulation, thereby enhancing the validity and reliability of the evaluation. Quantitative data include: NC DPI-certified school demographic, discipline, and suspension data; instructional days lost; NC EOG math and ELA, and EOC Math I and English II exams; PL attendance; coaching logs; student group noticing survey; CR Teacher Survey¹¹⁹; and student and teacher SEL surveys (Reliability averaged 0.78; validity scales correlated as expected with student outcomes).¹²⁰ NCDPI data and EOG/EOC standardized scores are valid and reliable, thereby meeting WWC 4.0 design standards. We will contract with the NC Education Research Data Center to generate NC DPI-certified datasets to ensure validity and reliability of data and provide access to a large pool of statewide data from which to query for well-matched comparison groups. Qualitative data includes personnel and provider interviews, focus groups with parents, students, and teachers, open-ended student survey items, teacher CR survey, and coaching logs. Qualitative analysis will

be guided by code development,¹²¹ informed by scholarly literature, stakeholder panels,¹²² and member checking¹²³ and will provide a rich context to interpret our quantitative data. The constant comparative method will be used to increase the trustworthiness of results. Each qualitative data collection process will stop when we reach saturation.¹²⁴ Our qualitative study will explore:

❶ What impact *RIPPLE* had on students' social-emotional development? ❷ What changes to the school climate are most noticeable? ❸ How *RIPPLE* impacted the teacher-student relationship?

4) Evaluation Plan. Our evaluation plan incorporates the logic model which provides a theoretical foundation to guide the program design, evaluation, and interpretation of findings.^{125,126,127} The model articulates key components (CR, TIC, RJ), mediators/outcomes (increased understanding to address student needs, improved climate), and long-term outcomes (reduced referrals, suspensions, expulsions; increased achievement). In concert with the interim performance monitoring based on the measurable thresholds in Table 1, quarterly reviews of the logic model will provide data to gauge early impact, suggest program revisions, and identify unintended outcomes. The Evaluation Group (TEG), our external evaluator selected via a procurement process, has capacity to conduct a rigorous, objective evaluation making them highly qualified to serve as our evaluator with qualifications including: over 30 years of experience evaluating K-12 education programs, including 10 former or current i3/EIR grants; social-emotional-focused projects; a multidisciplinary team with expertise in all evaluation areas; and expertise in creating and using project-specific, quantitative instruments and qualitative data collection techniques. The formative data includes the outputs in our logic model and progress towards outcomes. TEG will work with staff monthly to check-in on activities and progress. Results will be reported across and by school. Findings will be communicated via quarterly, mid-, and end-of-year reports. In addition, survey briefs and snapshots will present findings related to specific components. TEG will comply with required reporting, incorporate IRB approval, as applicable, and work with federal evaluation TA providers to fulfill EIR evaluation requirements. Through *RIPPLE*, we will test and study a trauma-informed systems approach embedded in a TI-MTSS framework for replication nationally.