Walker Street Extension:
TRANSPORTATION CONNECTIVITY
KEY TO THE REVITALIZATION OF A HISTORIC RAILROAD DOWNTOWN

Town of Cary
North Carolina

Submitted April 2016 by:
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I. PROJECT DESCRIPTION

Overview
Cary, North Carolina is a vibrant community located in the heart of what is known as “The Triangle”. The Triangle is anchored on the east by Raleigh and North Carolina State University; on the north by Durham and Duke University; and on the west by Chapel Hill and the University of North Carolina. The Town is edged on the north and east by Raleigh, and on the north and west by Morrisville and the Research Triangle Park, which is the largest research park in the country. The job opportunities and quality of life offered in the region continue to make Cary rank as a top place to live and work. Between 1990 and 2014 Cary’s population more than tripled, increasing from 43,858 to 146,041. Land area has also expanded from 30 square miles in 1990 to 57.56 square miles in 2014.¹

The growth in Cary as a whole has been exponential, and a priority for the Town is revitalization of the Downtown area. The vision for Downtown is one of a transit-oriented, mixed-use development area that supports the live-work-play paradigm. In order to encourage revitalization of the Downtown, a Town Center Area Plan was created and over $40 million of public and private investments has occurred; yet, significant transportation barriers remain.

The proposed TIGER project, the Walker Street Extension, is the cornerstone for overcoming existing transportation barriers and accomplishing the Downtown Cary vision. It is a comprehensive effort to redevelop and enhance the downtown by addressing intensifying traffic conditions, preparing for the proposed expansion of intercity high speed and regional commuter rail along an existing rail corridor that bisects Cary, and addressing safety and connectivity challenges to promote easier access to downtown services.

This TIGER project will extend Walker Street, which runs north-south through the heart of town, approximately 1,200 feet northward under the existing rail corridors and

¹ Town of Cary. Comprehensive Annexation Program. Accessed March 29, 2016 http://www.townofcary.org/Assets/Planning+Department/Planning+Department+PDFs/annex/ComprehensiveAnnexationProgram.pdf
widen the existing roadway at two intersections to allow for turn lanes. The widened cross-section will be a complete street, integrating sidewalks and dedicated bike lanes on both sides. The project will construct a grade separation of the existing railroad tracks over the Walker Street Extension. It will result in improved transit-oriented development opportunities and provide accommodations for auto, bus, rail, pedestrians, and bicyclists. The project is estimated to stimulate over $270,545,720 in user benefits.

The proposed project represents sustainable urbanism, a growing design movement that combines the creation and enhancement of walkable and diverse places with the need to build high-performance infrastructure. Cary has been enterprising in its’ efforts to maintain the focus on the integration of transportation and land use planning. By incorporating these two critical community efforts, the Town is confident the multimodal approach will provide higher density development opportunities, while reducing demand on any single mode of transportation. For these reasons, the Town’s strong leadership has worked tirelessly to give momentum and credibility to the Walker Street project.

While addressing immediate transportation infrastructure concerns, the Walker Street Extension Project will be transformational in more far-reaching measures such as its long-term focus on the three main components of DOT’s Ladders of Opportunity initiative, i.e., work, connect, and revitalize. If funded, the project will take place in an area that has a large Hispanic population (13%) and a high poverty rate (26.87%). The project will undoubtedly increase employment opportunities, especially for low-to-moderate wage earners, as improved access will lead to additional development such as housing, retail, and restaurant businesses locating to the area. At present, there are several early stage development opportunities Downtown. If these plans move forward, they could result in approximately 200 to 400 new housing units, 200,000 to 400,000 square feet of new office space, and 100,000 to 200,000 square feet of new retail space in the downtown area over the next 5 to 7 years. The additional business development and improved transportation network will bring about much-needed revitalization to the Town of Cary and support economic benefits for its citizens. New multimodal options such as pedestrian walkways, bicycle lanes, and more efficient automotive and bus routes will result in safer and easier access to the services and development located in the downtown area. While the Town has practiced solid and responsible financial management throughout its history, this project cannot be undertaken without Federal support. The high cost associated with the project, $33.3 million, is due in part to no interruption of train service being allowed throughout the construction process. Nonetheless, the complexities of the construction will be far outweighed by the long-term benefits of the modernized infrastructure and the subsequent economic benefits.

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Figure 1. Walker Street Extension Design

- Extension of Walker St to Chapel Hill Rd.
- Realignment of E Durham Rd.
- Existing NC Railroad Corridor & Planned Expansion
- Railroad overpass to accommodate 4 rail lines
- Intersection improvements at E Chatham St.
- Intersection improvements at Walnut St.
- Existing CSX Railroad Corridor
Challenges of Existing Facility

At-Grade Rail Crossings

The Town of Cary is uniquely situated at the junction of two east-west rail corridors that split and travel through the Downtown core. Within the 200 foot wide railroad corridor, there are two tracks. One is owned by North Carolina Railroad Company (NCRR) and leased to Norfolk-Southern Railroad (NS). The other is owned and operated by CSX Transportation (CSX). With trains servicing two interstate Amtrak passenger routes, three intrastate NCDOT passenger routes, and two freight routes, the two rail lines see approximately 21 trains daily running through Downtown.

All existing rail crossings on north-south roadways in the vicinity of downtown Cary are at-grade and gate controlled. There are no existing north-south grade-separated rail crossings. Data collected for the 2014 North Harrison Avenue Grade Separation Feasibility Study revealed that significant queuing occurs when rail crossings at Harrison Avenue and Academy Street are blocked by trains traversing the downtown, particularly when Amtrak passengers are boarding and disembarking, which typically occurs twice a day. Queues regularly exceed 30 vehicles long with delays over three minutes. Similar queues occur along Chatham Street west of Harrison Avenue, with some delays exceeding 10 minutes and requiring six cycles of the traffic signal during the AM peak hour.

The Norfolk Southern and CSX tracks are used for freight and passenger (Amtrak) trains. The flashers start 34 seconds prior to train arrival, and the gates drop 29 seconds prior to arrival. The gates begin to rise 2 to 3 seconds after the trailing car has cleared the crossing. Average daily freight train frequency through the project area is summarized below:

- There is currently an average of 10 freight trains per day on the Norfolk Southern tracks through the project area. Their speeds range from 10 to 35 mph over the crossing. The times of the freight train crossings vary from day to day.
- There is currently an average of 3 freight trains per day on the CSX tracks through the project area. Their speeds range from 40 to 45 mph over the crossing. The times of the freight train crossings vary from day to day.
- Recent observations indicate there is currently at least a 15 minute separation between the freight train and passenger train crossings. However, this is not an indication of the overall capacity of the existing infrastructure.

The Amtrak schedule is detailed in Table 1, and summarized below:

- The Piedmont and Carolinian trains use the Norfolk Southern tracks. The southbound trains require closing Harrison Avenue, and the northbound trains require closing both Harrison Avenue and Academy Street. Based on field observations by Town of Cary staff in January.

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2014, the total time the gates are closed ranges from 2.8 to 4.5 minutes (not including ADA passengers’ time requiring the use of a lift gate). The gate closure time depends on the number of passengers embarking/debarking, the length of the train, the track and platform used, and if there are passengers requiring use of the ADA lift.

- The Silver Star uses the CSX tracks. The Silver Star typically has 8 or more cars, and often closes both sets of gates during the entire dwell time.
- Three of the passenger rail crossings occur during peak travel hours and cause traffic delays for commuters entering and exiting the downtown area.

<table>
<thead>
<tr>
<th>Train Name</th>
<th>Train Number</th>
<th>Direction</th>
<th>Track</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piedmont</td>
<td>73 and 75</td>
<td>Southbound</td>
<td>Norfolk Southern</td>
<td>6:57am and 11:57 am</td>
</tr>
<tr>
<td>Piedmont</td>
<td>74 and 76</td>
<td>Northbound</td>
<td>Norfolk Southern</td>
<td>2:53 pm and 8:08 pm</td>
</tr>
<tr>
<td>Carolinian</td>
<td>79</td>
<td>Southbound</td>
<td>Norfolk Southern</td>
<td>5:03 pm</td>
</tr>
<tr>
<td>Carolinian</td>
<td>80</td>
<td>Northbound</td>
<td>Norfolk Southern</td>
<td>10:02 am</td>
</tr>
<tr>
<td>Silver Star</td>
<td>91</td>
<td>Southbound</td>
<td>CSX</td>
<td>9:27 am</td>
</tr>
<tr>
<td>Silver Star</td>
<td>92</td>
<td>Northbound</td>
<td>CSX</td>
<td>8:15 am</td>
</tr>
</tbody>
</table>

Freight and passenger rail service continue to increase in volume along the corridor. NS and CSX combined anticipate an additional 10-12 freight trains (5-6 in each direction) per day over the next decade. The corridor is part of the proposed Southeast High Speed Rail (SEHSR) line that will extend from the Northeast Corridor (Boston, MA to Washington, DC) southward through Virginia and Cary and on to Charlotte, NC. The rail service expansion is anticipated to commence by 2022. At the regional level, GoTriangle has finalized draft plans concerning commuter opportunities in the region and are examining locally preferred alternatives, alternative analysis, and environmental documentation for the rail utilizing the NS rail corridor. The existing Amtrak Cary Depot is a proposed station location for both SEHSR and GoTriangle, and the two efforts combined would increase passenger rail service through Cary by an additional eight trains (four in each direction) per day. By 2040, projections indicate up to 20 freight, 18 Amtrak, and 30 commuter rail trips would be made through downtown daily, increasing the current frequency from one train every 1.2-1.5 hours to one train every 5-7 minutes.

Forcing vehicles to wait for passing trains impedes traffic flow north and south of the rail corridor and limits accessibility to downtown destinations. In addition, idling vehicles at the rail crossings yield increased traffic congestion, crashes, and emissions. Currently, 14,600 vehicles per day pass over the tracks in downtown Cary, and this number is estimated to rise to 18,900 by 2040. A grade-separated crossing will become critical for residents and business owners in the area.

**Pedestrian and Bicyclist Safety**

Currently, the downtown is a hub of activity, offering access to Amtrak and regional bus transit and a host of retail, institutional, industrial, and residential facilities. Accommodating pedestrians and bicyclists is an essential part of the Town’s quality of life and economic viability. Presently, there are no dedicated bike lanes in the project area and the availability of sidewalks varies. The presence of sidewalks and bike lanes are often the most influential factor...
in increasing pedestrian and cyclist use. If there is not a sidewalk or bike lane to a destination, people are not likely to walk or ride to it. Another concern is bike and walker safety crossing the railroad tracks. At present, there is very little protection for pedestrians and bicyclists at the rail crossings. The Town recognizes the importance of fostering an environment that allows bicyclists and pedestrians to move with ease and safety throughout the Town, between activity centers, and to access existing transit opportunities. The Walker Street Extension Project builds on the Town's efforts to provide pedestrian and bicycle accommodations in order to encourage transportation options for its citizens. The project enhances bike and pedestrian access to existing bus routes downtown, as well as improves connections to the Cary Depot, which provides access to Amtrak, along with local and regional bus services.
Traffic Congestion

Traffic conditions in downtown Cary are marginally acceptable, but are expected to worsen through 2035. Three of the five signalized intersections within the project area that currently operate at Level of Service (LOS) D will degrade to LOS E or F without the planned improvements. Much of this congestion is caused by through traffic – car trips that neither begin or end within the project area, or make a stop on the way to or from work. In the most recent traffic surveys conducted by Wilbur Smith Associates in 2001, approximately one half of all traffic passing through the Town Center in rush hour can be classified as through trips. In addition to more regional traffic, increased rail traffic will cause substantial delays along Academy Street and Harrison Avenue, the primary downtown north-south thoroughfares, as a result of the existing at-grade crossings. Considering the increased frequency of rail closures in the near future, adjacent roadways will incur additional congestion as a result of cars queued at the at-grade crossings. In order to accommodate for the increased rail trips in the near future, the Town must invest in creating a grade-separated rail crossing at Walker Street to provide uninterrupted access to the downtown’s amenities and services.

Emergency Response

Response times from two Cary Fire Stations (#1 and #4) are affected when the at-grade rail crossings at Academy Street and Harrison Avenue are closed for passing trains. When both grade rail crossings are blocked, response times to emergency stations north of the rail crossings for Station #4 increases by two minutes (from 5 to 7) and the travel distance increases by 1.2 miles (from 2.2 to 3.4). For Station #1, emergency responses south of the rail crossing increases response times by four minutes (from 5 to 9) and the distance increases by 0.7 miles (from 2.5 to 3.2). Cary Police Department response times are also impacted, though it is difficult to ascertain the extent as police car dispatch locations vary. When trains are passing, police responding to areas south of Downtown Cary must use an alternate route that extends their travels by 0.6 miles and adds three stop-controlled intersections, increasing travel time by approximately 4 minutes. Additional delays are caused by traffic congestion within the project area due to inadequate intersections and traffic queuing at rail crossings.

Detailed Project Description

The Walker Street Extension represents a significant local investment in redeveloping downtown Cary into a truly livable and sustainable area, where residents can live, work, and shop in a single community without needing a personal vehicle. The project is anticipated to provide a much needed connection from south to north Cary, as well as local traffic accessibility to downtown service and retail businesses. The map on page 3 depicts the proposed improvements and the following is a summary of the key elements.

Extension of Existing Walker Street

Description: The proposed project will extend Walker Street from its current terminus at Cedar Street northward 0.2 miles to Chapel Hill Road. The 70-foot typical section will include two 11-
foot travel lanes (one in each direction) with 4-foot bicycle lanes, a 10-foot turn lane or median, 6-inch curb, and 10-foot sidewalks on both sides.

**Challenges Addressed:** The Walker Street Extension will provide additional capacity in the north-south direction and create unimpeded connections to points north (NC Highway 54, Interstate 40, and Raleigh-Durham International Airport) and south (NC Highway 55 and US Highway 64). Extending the roadway will also alleviate congestion on roads parallel to Walker Street. Additionally, the extension will better distribute through traffic away from the center of downtown, improving access to businesses and increasing traffic safety and efficiency. By reducing the volumes along Academy Street and Harrison Avenue, the proposed project will allow these corridors to become safer for all users, especially pedestrians and bicyclists, and help transform downtown Cary into a more urban, multimodal environment. This will prepare downtown for new development and additional commuter traffic expected by proposed rail efforts in the region.

### TABLE 2. INFRASTRUCTURE CONDITIONS: BASELINE & PROPOSED PROJECT

<table>
<thead>
<tr>
<th>Infrastructure Condition</th>
<th>Baseline</th>
<th>Proposed Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Lanes</td>
<td>2 lanes (south of rail corridors only)</td>
<td>2 lanes</td>
</tr>
<tr>
<td>Control of Access</td>
<td>None</td>
<td>None, medians may be provided for channelization and landscaping</td>
</tr>
<tr>
<td>Speed Limit</td>
<td>25 mph</td>
<td>25 mph</td>
</tr>
<tr>
<td>Right-of-Way Width</td>
<td>40 feet</td>
<td>71 to 90 feet</td>
</tr>
<tr>
<td>Intersecting Road</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Existing section of Walker Street begins as a three-leg intersection at Byrum Street and continues north with intersections at Walnut Street, Fairview Road, Park Street, Callan Park Lane, Waldo Street, Chatham Street and ends as a three-leg intersection at Cedar Street. One signalized intersection in downtown (Chatham Street) No turn lanes at Chatham and Walnut Street intersections E Durham Road ends at Chapel Hill Road</td>
<td>Begin at the intersection of Walker Street and Cedar Street and will extend Walker Street a distance of 0.2 miles under the new railroad bridge and end at Chapel Hill Road. One signalized intersection (Chatham Street) with potential for two others (Chapel Hill Road and Walnut Street) Add turn lanes (Chatham Street and Walnut Street intersections) Terminate side street as (Cedar Street) on the east side of Walker Street. Construct roundabout (Intersection of Wilkinson Avenue west of Walker Street/Durham Road relocated to tie-in)</td>
</tr>
<tr>
<td>Railroads</td>
<td>Two rail lines running east-west 200-foot ROW combined corridor</td>
<td>2 existing; 2 future Ability to widen up to 6 tracks</td>
</tr>
<tr>
<td>Rail Crossings (Downtown)</td>
<td>2 at-grade</td>
<td>1 grade-separated 2 at-grade</td>
</tr>
<tr>
<td>Sidewalks</td>
<td>East side of existing Walker Street, south of Chatham Street, and along one side of most of the residential streets in the project area</td>
<td>10-foot sidewalk along both sides of Walker Street Extension</td>
</tr>
<tr>
<td>Modes Accommodated</td>
<td>Vehicular; Pedestrians (limited); Bicycles (limited); Rail: Freight, passenger</td>
<td>Vehicular; Pedestrians; Bicycles; Bus; Rail: Freight, passenger, commuter</td>
</tr>
</tbody>
</table>
Construction of a Grade Separated Crossing of the Existing Railroad Tracks over the Walker Street Extension

Description: The new bridge structure for the railroad will be approximately 120 feet long and provide width for two (2) existing and two (2) future tracks and the ability to widen to a total of six (6) tracks. The proposed structure will provide spacing for additional CSX and NS tracks and allow the existing NS track location to be used for commuter rail service currently being planned by GoTriangle (formerly Triangle Transit).

Challenges Addressed: The extension is envisioned to be a crucial link in the heart of downtown and will enable safe, uninterrupted access to business and civic destinations. Residents will experience improved multimodal access to bus and rail transit that link to employment and education opportunities in Research Triangle Park, Raleigh, Durham, and Chapel Hill. The grade separation will be the only north-south grade separation in downtown Cary. Additionally, the new bridge will improve emergency response times.

The new route will also provide a safer route for truck traffic in and around downtown. All local truck traffic must cross the rail corridors at the existing at-grade crossings. The nearest grade separations with significant clearance are Interstate 40 to the east and NW Maynard to the west, over three road miles away.

Relocation of E Durham Road to Tie into Walker Street and Relocation of Chapel Hill Road Connection

Description: The Walker Street Extension will cross under the new railroad bridge and intersect Wilkinson Avenue and a relocated E Durham Road at a roundabout. The direct connection of E Durham Road to Chapel Hill Road will be relocated to the new Walker Street corridor with a three-leg intersection at Chapel Hill Road. This intersection may be signalized. Businesses on existing Wilkinson Avenue east of the Walker Street Extension will continue to have access to E Durham Road, but Wilkinson Avenue will be terminated in a cul-de-sac just east of the Walker Street Extension.

Challenges Addressed: This project element will further support the separation of through traffic from local roads to Walker Street. Moreover, the addition of the roundabout will reduce speeds on the extension, limiting the likelihood of downtown Cary as a cut-through route for
regional traffic. The traffic pattern in downtown Cary will be redistributed, particularly in the area adjacent to the Town Hall campus. A safe and direct local connection from E Durham Road to the Walker Street Extension will be created. Access will be improved to the Town Hall Campus and parking deck located on Wilkinson Avenue when this street is tied directly into the roundabout. The sum of these improvements will help to ease traffic congestion and efficiently distribute traffic in downtown.

**Widening Existing Walker Street at the Intersections of Chatham and Walnut Streets**

*Description:* The project will modify the signal at the intersection of Walker Street and Chatham Street to add turn lanes. Cedar Street will be terminated on the east side of Walker Street. On the west side, Cedar Street will remain connected to the proposed project at an unsignalized intersection. To the south of the proposed Walker Street Extension, the intersection of Walker and Walnut Streets will be improved slightly by adding a turn lane. This intersection may be signalized.

*Challenges Addressed:* In the future, due to the projected increases in traffic and rail passenger and freight service, the frequency of railroad gate closures will increase traffic congestion, which will divert approximately two-thirds of the existing traffic volumes presently on Academy Street onto the proposed Walker Street Extension. The intersection improvements will enhance existing connections to accommodate the increased traffic volumes and improve traffic flow.

**Promoting Livability Principles**

The Walker Street Extension Project embodies strong connections to the Partnership for Sustainable Communities six livability principles:

*Provide more transportation choices* – This multimodal project improves the efficiency of all modes of transportation, facilitates expanded bus and bus rapid transit opportunities, and supports expanded freight and rail passenger usage of existing rail lines. There are plans to increase frequency for local and regional transit services, which would operate through Downtown Cary. The completion of the Walker Street Extension project would provide more mobility options for transit access and improve connections between local and regional transit options. Further, the project will promote public health and reduce greenhouse gas emissions by offering additional pedestrian walkways and safe bicycling options. The proposed infrastructure changes will ensure pedestrian and cyclist safety. The fastest growing segment of Cary’s population is nearing retirement age, making transportation options and mobility considerations a top priority.

*Promote equitable, affordable housing* – For adjacent neighborhood residents and downtown commuters, improved pedestrian and bike access reduces transportation costs, improving the affordability of the neighborhood. The employment opportunities will improve the economic status of many residents, creating a spillover effect of making housing more affordable. Research suggests that by building a stable yet robust city, residents will have access to new jobs, thus making the community more sustainable and housing stock stronger. This is exactly the type of capacity-building effort the Walker Street Extension project will address.

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Enhance economic competitiveness – The Town has plans for redevelopment opportunities as a result of the extension project. In the area north of the tracks the Town is exploring redevelopment opportunities to include offices and other employment spaces, with some commercial that supports workers and neighborhoods. Increasing the density of development in this area will bolster the downtown market and support existing and new businesses.

Support existing communities – The first phase of a 7-acre downtown park is currently under construction and will feature a plaza, fountain, and performance space with gathering and seating areas. The park is envisioned as a unique space to complement the larger downtown district and surrounding neighborhoods. The area is immediately adjacent to the proposed project area and abuts the Cary Historic District. The Walker Street Extension project will afford more accessibility to this community green space.

Coordinate policies and leverage investments – In support of the Town Center Area Plan, a master plan was needed to encourage a vital downtown at the heart of the community, address pressing traffic concerns, and to prepare for the development that commuter rail service may spur. In response, the Town has invested more than $40 million over the last 10 years to improve the economic viability of its’ downtown area. In order for these investments to be fully realized, unimpeded traffic flow, north and south bound over the rail lines is essential.

Value communities and neighborhoods – The purpose of this project is to provide safe, equitable access to downtown service to residents through the Town’s commitment to providing quality of life to all people. The downtown Cary Streetscape, which is in the project area, will include wide sidewalks, local art, landscaping, street furniture, upgraded light fixtures, and special paving features. Additionally, Cary has invested over $88,000 in the past year in the Walker Street corridor in the Façade Improvement Program, spurring more than $540,000 in total investment. This program provides matching funds to assist property and business owners to undertake storefront or building front improvements.

Promoting Ladders of Opportunity

The Walker Street Extension Project is illustrative of the Town’s commitment to the DOT’s Ladders of Opportunity initiative and the dramatic impact transportation infrastructure can have on neighborhoods. Within a mile of the construction area of the Walker Street Extension lies the highest concentration of Hispanic/Latino population in Wake County and the sixth highest in North Carolina (census tract 535.01). From 2000-2010, the percentage of the population who identify as Hispanic/Latino increased from 4.3% to 7.7%. Two mobile home communities are home to many of this minority group. Chatham Estates, located on the west side of Maynard Road, and Mobile Estates, located on the east side of Maynard, contain more than 400 mobile home units. Further, there are a number of affordable housing units in the immediate proximity (zip codes 27511 and 27513) including Community Development Block Grant (CDBG) and New Markets Tax Credit (NMTC) projects. These areas include over a dozen transitional housing units, 40 Habitat for Humanity homes, 180 LIHTC units for seniors, 60 Low Income Housing Tax Credit (LIHTC) units for families, and a variety of other affordable housing and rehabilitation facilities. The proposed project would offer untold economic and connectivity benefits for the residents of these underserved areas as incoming retail and restaurant businesses would provide significant employment opportunities. Research suggests
infrastructure investments create a significant number of jobs for people of color. The socioeconomic mobility afforded by these opportunities would have a positive impact on the entire Town’s economy.

The project area is served by C-Tran, Cary’s low fare public bus transit system. C-Tran has six routes that serve Walker Street and the surrounding area. Two low-income senior living communities, Highland Village and Weatherstone Springs, are within a 9-minute bus ride to the Walker Street area. Likewise, the affordable housing Sedgebrook Apartments are an 8-minute bus ride to the area. Routes 4, 5, and 6 could potentially use the Walker Street Extension to improve on-time performance. In 2015, the passenger trips for these three routes were:

Route 4 – 60,848 (202 average daily passenger trips); Route 5 – 38,553 (128 average daily passenger trips); and Route 6 – 71,164 (236 average daily passenger trips). Taking into account regional bus services operating and connecting though Downtown Cary, there are approximately 650 average daily passenger trips within the defined Walker Street Extension project area. Improved on-time performance would be extremely beneficial for residents who rely on bus service to take them to and from work, which this project will offer.

Christian Community in Action is a 41-year old non-profit organization that provides financial assistance and a food pantry for needy residents in Cary. It is located about one mile from where the Walker Street Extension would begin and will be more easily accessible after completion of the project. A sister organization, Dorcas Ministries, is an outreach organization providing financial assistance, childcare services, job training, and educational assistance. Dorcas is located about one mile from Town Center and would likewise benefit from more efficient traffic flow as a result of the Walker Street project infrastructure improvements. Many residents who utilize these organizations rely heavily on public transportation or walk and bike to these locations. Improved accessibility to these services is key to this project.

Finally, the North Carolina Job Services Office is located on E Chatham Street, less than a mile from where the Walker Street Extension would begin to go underneath the existing tracks. The NC Job Services Offices provide individuals seeking employment all the latest tools to find and keep that special job. Employers will find assistance in recruiting new employees including a national job listing network, applicant screening, and space in the centers to conduct testing and employment interviews. The project would ease congestion and provide alternative transportation choices and thus, improve accessibility, in this area since traffic would no longer be encumbered by train crossings.

II. PROJECT LOCATION

The Walker Street Extension project is located in northeastern Cary, within the downtown limits. Approximately 8,398 people live in the project area. Land use generally consists of mixed commercial and governmental, transitioning to residential areas south of Chatham Street. There are established residential concentrations including multi-family housing located along existing Walker Street from East Cedar Street south to Walnut Street. The Cary Historic District lies southwest of the project area. A project map is provided on page 3.

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The basic demographic profile provided below shows that the project area, city, and county is one with socioeconomic disparities. The project is located in an area that is a predominantly Hispanic community and has high poverty rates. Within the project area, there are approximately 3,380 low-moderate income persons, which equates to approximately 40% of the project area population.

### TABLE 3. SOCIOECONOMIC DATA

<table>
<thead>
<tr>
<th></th>
<th>Project Area</th>
<th>Cary</th>
<th>Wake County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>8,398</td>
<td>146,041</td>
<td>952,513</td>
</tr>
<tr>
<td>White</td>
<td>74.4%</td>
<td>71.9%</td>
<td>68.0%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>11.1%</td>
<td>8.0%</td>
<td>20.8%</td>
</tr>
<tr>
<td>American Indian</td>
<td>0.1%</td>
<td>0.5%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Asian</td>
<td>6.6%</td>
<td>14.1%</td>
<td>5.8%</td>
</tr>
<tr>
<td>Native Hawaiian</td>
<td>0.2%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Some other race</td>
<td>5.4%</td>
<td>2.9%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Two or more races</td>
<td>2.1%</td>
<td>2.6%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>13%</td>
<td>8.9%</td>
<td>9.9%</td>
</tr>
<tr>
<td>Median Household Income ($2014)</td>
<td>$60,797</td>
<td>$91,481</td>
<td>$66,579</td>
</tr>
<tr>
<td>Percent below poverty</td>
<td>26.87%</td>
<td>6.70%</td>
<td>11.30%</td>
</tr>
</tbody>
</table>

Data Source: 2010-2014 American Community Survey

### III. PROJECT PARTIES

The Town of Cary is the project lead and will fund the local share of the project through Town funds. The Town has been managing Federal grant funding for 14 years and takes their fiduciary responsibilities very seriously. Grant funds are managed through a comprehensive electronic system whereby each individual grant is tracked as well as the entire grant portfolio. All Federal grant reporting requirements have been consistently and strictly adhered to and deadlines successfully met. A few examples of grants awarded to the Town of Cary include:

- Department of Transportation, Surface Transportation Program (STP) – awarded $5.4 million in 2016.
- Department of Transportation, Federal Highway Administration; Congestion Mitigation and Air Quality Improve Grant (CMAQ) – awarded $3 million in 2013.
- Department of Transportation, Federal Highway Commission; Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU) – awarded $797,000 in 2013.
- Department of Energy, Energy Efficiency and Conservation Block Grant (EECBG) – awarded $1.2 million in 2010. This was an ARRA grant and included complex reporting requirements and exhaustive oversight.
- State Revolving Loan (SRL) funds – Funds are allocated through the state for water/sewer infrastructure projects that originate from a Federal source. Awarded $35M in 2012 and $2.7M in 2013.

Additional partners in the project include:

**North Carolina Department of Transportation (NCDOT)** – NCDOT has a long history of working with the Town. It currently is the local administrator for the grants already received, reviews
the Town’s transportation plans, and helps with railroad coordination. For the TIGER project, NCDOT will provide oversight and assistance with the administration of the grant as the project moves forward. NCDOT has agreed to make staff available to answer questions and navigate the Town through the grant process to ensure timely and successful grant execution.

**Capital Area Metropolitan Planning Organization (CAMPO)** – The Town of Cary staff serves on a Technical Coordinating Committee (TCC) and the Town's Mayor serves on the Executive Board of CAMPO. The TCC is comprised of staff from all the municipalities and transportation organizations within the CAMPO region and Cary provides technical expertise and direction on a variety of issues related to transportation planning. CAMPO has sponsored several federal Surface Transportation Direct Allocation grants (STP-DA) in collaboration with the Town of Cary. For the TIGER project, CAMPO will provide technical assistance for the planning portion of the Walker Street Project.

**North Carolina Railroad Company (NCRR)** – NCRR owns and leases the 317-mile rail corridor that extends from Charlotte through the Town of Cary and on to Morehead City. For the TIGER project, NCRR has agreed to collaborate with the Town on all project design elements. Specifically, NCRR will participate in final design approval and right-of-way and encroachment agreements. NCRR has also committed $1 million to support the grade separated rail crossing.

These partners have been crucial partners in the development and design of the process, and have been included in project meetings and discussions throughout the design stages. Letters of support from project partners are attached to the project application.

Additional stakeholders in support of the project include:

- North Carolina Senator Richard Burr
- North Carolina Senator Thom Tillis
- North Carolina Congressional District 4 – Congressman David Price
- North Carolina Congressional District 2 – Congresswoman Renee Ellmers
- Norfolk Southern Corporation
- CSX Transportation
- GoTriangle
- Cary Chamber of Commerce
- Heart of Cary Downtown Association
- Wake Up Wake County
- Wake County Manager

Letters of support from project stakeholders are attached to this application. Letters received after the application will be posted on the project website as well as mailed to DOT.

**IV. GRANT FUNDS AND SOURCES/USES OF PROJECT FUNDS**

The Town of Cary seeks $22,541,751.93 in FY2016 TIGER grant funding to support the Walker Street Extension project. The Town is prepared to provide $5,635,437.98 in matching funds to secure the remaining funds needed to complete this $33.3 million project. A description of the project costs and sources of funding is provided below.
Total Project Costs

Total estimated cost for design and engineering services, right-of-way acquisition, and construction of the needed improvements is $33.3 million. The current cost estimate was completed at the 75-percent design level. The project team prepared estimates using detailed quantity estimates and unit costs based on bid prices of recent NCDOT projects of similar scope. Where possible, contractors have been contacted to support other unit costs. Appropriate contingencies have been factored into the project cost; thus the estimate is expected to be in line with the final design estimate which will be completed by fall 2017.

Expended Funds

To date, the Town has already spent $1.7 million in support of the project. Of the $1.7 million, approximately $500,000 was spent on site acquisition and the remainder in support of project design activities.

Secured Funding Sources

The Town of Cary Walker Street Extension Project has secured the financial support of federal and state governments as well as the private sector. Of the $33.3 million cost estimate, the Town of Cary has previously secured $5.484 million in grants, which consist of two federal earmarks supported by Congressman David Price, Section 129 Surface Transportation Projects ($980,000 in FFY 2008 appropriations) and High Speed Rail Program Section 1103(f) ($1,104,000 in FFY 2009 appropriations); a federal Surface Transportation Project – Direct Allocation (STP-DA) grant administered by Capital Area MPO ($2,400,000); and a North Carolina Railroad grant ($1,000,000). As part of the STP-DA grant, the Town provided a $600,000 matching contribution. The Town of Cary has also appropriated $1.116 million of its own funds to this project. These funds have been appropriated to this project and have yet to be spent.

<table>
<thead>
<tr>
<th>Fund Source</th>
<th>Federal Funds Amount ($)</th>
<th>Reimbursement Rate (%)</th>
<th>Private Fund Amount ($)</th>
<th>Reimbursement Rate (%)</th>
<th>Non-Federal Local Match ($)</th>
<th>Non-Federal Local Match Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 129</td>
<td>$ 980,000</td>
<td>100 %</td>
<td>N/A</td>
<td>N/A</td>
<td>$0</td>
<td>0 %</td>
</tr>
<tr>
<td>Section 1103(f)</td>
<td>$1,104,000</td>
<td>100 %</td>
<td>N/A</td>
<td>N/A</td>
<td>$0</td>
<td>0 %</td>
</tr>
<tr>
<td>STP-DA</td>
<td>$2,400,000</td>
<td>80 %</td>
<td>N/A</td>
<td>N/A</td>
<td>$600,000</td>
<td>20 %</td>
</tr>
<tr>
<td>NCRR</td>
<td>N/A</td>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Town of Cary</td>
<td>N/A</td>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>$1,116,632</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Total Funds Appropriated to Date</strong></td>
<td><strong>$7,200,632</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TIGER Project

The FY2016 TIGER funding request is based on the calculated remaining project need.

<table>
<thead>
<tr>
<th>TABLE 6. IDENTIFICATION OF REMAINING FUNDING NEED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Project Cost</td>
</tr>
<tr>
<td>MINUS Federal Grants Received to Date</td>
</tr>
<tr>
<td>MINUS Appropriated Local STP-DA Match</td>
</tr>
<tr>
<td>Remaining TIGER Project Need</td>
</tr>
</tbody>
</table>

The Town of Cary is requesting a $22,541,751.93 TIGER grant to support the Walker Street extension. The Town has secured a 20% match to support the project. Local match for the TIGER funding will be provided through Town of Cary appropriations and the North Carolina Railroad. As of April 2016, the Town has appropriated $1,116,632 of unobligated Town cash towards the Walker Street Extension project and has secured a $1,000,000 commitment from NCRR to support the project. If the Town were awarded a TIGER grant in the amount requested in the table above, the Town is committed to appropriating the remaining $3,518,806 needed to meet the full 20% local match amount of $5,635,437.98.

<table>
<thead>
<tr>
<th>TABLE 7. TIGER FY2016 FUNDS REQUESTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fund Source</td>
</tr>
<tr>
<td>TIGER FY2016 Funds Requested</td>
</tr>
<tr>
<td>Town of Cary TIGER Match</td>
</tr>
<tr>
<td>TIGER Project</td>
</tr>
</tbody>
</table>

V. PRIMARY SELECTION CRITERIA

State of Good Repair

The Walker Street Extension is consistent with local and regional efforts and plans to maintain transportation facilities and systems in a state of good repair.

- Walker Street is included in the Cary Comprehensive Transportation Plan, which recommends investments in multimodal transportation projects to improve connectivity so all residents have access to amenities throughout the Town. The Walker Street project is also included in the NC Capital Area MPO Metropolitan Transportation Plan and embodies the plan’s goals which strive to create a seamless integration of transportation services that offer a range of travel choices to support economic development and are compatible with the character and development of communities, sensitive to the environment, improve quality of life and are safe and accessible for all. Walker Street is also programmed in the Statewide Transportation Improvement Program (U-5117), which has been adopted by the Capital Area MPO. All of the aforementioned documents accept that Town of Cary streets will be maintained in a state of good repair after project completion.

- Consistent with objectives articulated in the Cary Town Center Area Plan, Comprehensive Transportation Plan, and the Downtown Streetscape Plan, the project efficiently distributes traffic within downtown and limits future increases in the volume of cut-through traffic by encouraging motorists to take alternate routes. Channeling through traffic to Walker Street will reduce wear and tear on the current primary north-south thoroughfares, Academy Street and Harrison Avenue.
The Walker Street Extension project would rehabilitate, reconstruct, and upgrade surface transportation assets that, if left unimproved, threaten future transportation network efficiency, mobility of goods or people, or economic growth due to their poor condition.

- Were this project not funded, access to downtown from the north would be limited to the Harrison Avenue and Academy Street at-grade crossings, which already experience significant traffic delays. As freight and passenger rail continues to expand in the region, it is anticipated that traffic delays due to the trains will only increase, making services in the downtown area extremely inconvenient to access. The movement of people and goods would ultimately be inhibited by the lack of grade-separated crossings, eventually rendering the Town to a bifurcated existence, solely reliant on the goods and services located in its area.
- The construction of the grade-separated rail crossing will allow for unimpeded traffic flow and enhance the movement of future freight and passenger trains through downtown. The structure will improve the mobility of goods and people and economic growth.
- The grade-separated rail crossing will facilitate numerous rail vehicles stopping at the Cary Depot by:
  - Separating vehicular traffic from the rail crossing at the busiest north-south route through Downtown; and
  - Providing a pedestrian walkway under the commuter and freight rail tracks.
- The widening of existing Walker Street at the intersections of Chatham and Walnut Streets will enhance existing connections to accommodate anticipated traffic and facilitate efficient traffic movements.
- Removal of traffic from Academy and Harrison Streets will extend the design life of these thoroughfares and minimize life cycle costs.

The Walker Street Extension Project is appropriately capitalized up front and uses asset management approaches that optimize its long-term cost structure.

- The Town of Cary endeavors to “promote efficient and effective use of resources through vigorous budget preparation, approval and execution.” If awarded a TIGER FY2016 grant, Town Council and administrators have carefully considered capital finances and the Town’s

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7 Town of Cary Land Use Plan, Chapter 5 Goals and Objectives, http://townofcary.org/__shared/assets/chapter510508.pdf
share of the local contribution would be appropriated through the FY2016 and 2017 budget process. There are sufficient funding sources to support the $5.6 million grant match.

- Town of Cary will assume project maintenance and operational expenses. The Town of Cary FY16 Capital Improvement Budget ($78 million) and the Town’s 2012 passed Community Improvement Bond referendum for transportation ($57.7 million) demonstrates the Town’s continued annual commitment to infrastructure maintenance and improvement. Beyond the bonds, a total of $32.5 million in the next 5 years of the Capital Improvement Budget supports pavement rehabilitation. Budgeted revenues will be sufficient to operate and maintain the proposed project with a 5-year Capital Improvement Plan totaling more than $115.6 million. Long-term efforts to maintain the project will also include nationally accepted best practices.

- The railroad tracks along the grade-separated rail crossing will be maintained by the NCRR. Town of Cary coordinated with the NCRR as well as NS, CSX, and GoTriangle to design the steel bridge structure, which conforms to existing NCRR policies on materials and maintenance.

### Economic Competitiveness

The Walker Street Extension Project will improve long-term efficiency, reliability, and cost-competitiveness in the movement of workers and goods.

- The Walker Street project not only accommodates for the anticipated increase of the freight and commuter rail industry, but also improved viable access routes for future truck traffic. In 2008, trucks comprised two (2) percent of daily traffic. As downtown redevelopment and revitalization progresses, truck traffic will increase to serve new commercial establishments, and the Walker Street Extension will allow for a more direct route for deliveries and services in downtown.

- A 2009 study found that in the typical market, an additional one point increase in Walk Score was associated with between a $500 and $3,000 increase in home values.\(^8\) New sidewalks and multiuse paths should lead to improved walkability, and thus the potential for value capture by local homeowners. It can also lead to more economic certainty for smaller, local retail stores that rely on patrons that walk or bike to their stores. Further, lessened vehicular traffic along Academy and Harrison Streets will make the corridors more conducive to multimodal users. More efficient multimodal access to businesses for residents and visitors will yield increased economic competitiveness.

- The Cary Depot is located on N. Academy Street within the project area. It serves the Piedmont, Carolinian, and Silver Star Amtrak lines as well as regional GoTriangle and local C-Tran buses. C-Tran bus routes 3, 4, 5 and 6 use the Cary Depot as their end-of-the-line point of service. Between C-Tran routes 3, 4, 5, and 6, approximately 400-500 local bus passengers travel through downtown on a daily basis. The Walker Street Extension Project will improve the efficiency at which bus, vehicle, and rail commutes can move through the area since there would no longer be delays associated with rail crossing. Regional bus routes 300 and 301 pass through the project area as well. Between these two routes,
approximately 100-200 additional bus riders pass through daily and use stops within the project area. There is the potential for decreased travel time with the Walker Street Extension project due to enhanced transportation options, and could encourage higher transit ridership, stimulating economic growth.

The Walker Street Extension Project will bolster the economic viability of business development.

- To encourage property redevelopment and investment by the private sector in the core area of downtown, the Town created a Business Improvement District (BID) in 2012, which includes the Walker Street Extension area. Within pre-determined boundaries, development fees associated with new development are paid by the Town of Cary. This assistance includes fees associated with water development, sewer development, reclaimed water development, transportation development, as well as any development fees associated with park and recreation land dedication. This assistance was provided for an initial three year period (July 1, 2012 – June 30, 2015) and was renewed for another three year period (July 1, 2015 – July 1, 2018). To date, the Town has paid approximately $200,000 in development fees, leveraging $12 million in private investment for new and redevelopment projects in the area. The improved infrastructure that would be realized from the Walker Street Extension Project, along with the Town’s economic incentives, would continue to encourage private investment and development.

- In 2012, the Town entered into an economic development agreement with private developers for a 45 room boutique hotel, the Mayton Inn, in downtown. As part of the agreement the Town sold land and contributed two historic structures on the condition they would be renovated. Additionally, the Town used a HUD Section 108 Loan of $1.4 million, which guarantees 40 jobs to the census tract in which it is located, as well as provided funding for offsite improvements. The Mayton Inn opened in February 2016 and the Walker Street Extension project will leverage the investments made within the downtown area, making it more accessible for residents and visitors alike.

Quality of Life

The Walker Street Project will enhance user mobility through the creation of more convenient transportation options for travelers and increased modal connectivity.

- While the Town does not have a formal, stand-alone Complete Streets Policy, the 2008 Comprehensive Transportation Plan (CTP) functions, essentially, as one. The CTP mandates that roadways are designed in a way that all users of the roadway are provided safe access and mobility regardless of the mode of travel of the roadway user. This means that roadways are designed to accommodate all users of the roadway network, including pedestrians, bicyclists, and transit users, in addition to vehicle drivers, comfortably and safely. The project will transform Walker Street from an auto-oriented street to a complete street that serves as the primary thoroughfare for traffic flowing north-south. Complete streets have been found to improve livability, encourage physical activity, and better serve the transportation disadvantaged. The street will accommodate automobiles, pedestrians, bicycles, and passenger trains safely and efficiently and offer true multimodal choice in
downtown. Improved connections will enhance existing access to bus and rail transit at the Cary Depot Station.

The Walker Street Extension Project will improve accessibility and transport services for economically disadvantaged populations, non-drivers, senior citizens, and persons with disabilities, and will make goods, commodities, and services more readily available to these groups.

- The 8,398 residents in the project area tend to live at a higher poverty level, 26.8%, compared to the general population of Wake County, which is 11.3%. Additionally, the project area is home to a large Hispanic population (13%). New non-motorized connections along Walker Street will link them to key community institutions including a community center, banks, and churches, many of which are highlighted on the map on page 21. Additionally, the project will enhance access to regional and local bus transit in the vicinity of the project as well as existing Amtrak and future passenger rail service. The Extension will be Americans with Disabilities Act (ADA) accessible.
- There are three elementary schools within a mile of the Walker Street Extension project area (Kingswood, Cary, and Northwood). The proposed infrastructure changes would result in easier access and less travel to these locations due to no interruption of travel time resulting from trains loading and unloading.

The Walker Street Extension Project is the result of a planning process that integrated transportation and land-use planning decisions and encouraged community participation in the process.

- The project was crafted as part of the Downtown Cary Streetscape Plan which included two public meetings in 2014 and is consistent with recommendations and policies set in various regional, state, and local transportation and land use plans. It is widely believed public involvement in developing local transportation plans lead to a more comprehensive and needs-based approach for community development.
- The Town of Cary encouraged community participation in the process through two public information exchanges—the first in March 2008 and the second in November 2009. Project staff presented general design concepts and received comments that were considered through the planning and environmental phase and currently, through engineering. In addition to public input, the process included extensive agency coordination through development of the Categorical Exclusion. As the grade-separated railroad bridge is a key component in the project, the staff engaged the NCDOT Rail Division, NCRR, NS, CSX, and GoTriangle.

The Walker Street Extension Project provides new opportunity to expand the extents of Downtown northward and across the rail corridor while aiding the rejuvenation of the existing core.

- By creating the first grade-separated, multimodal corridor connecting the major east-west corridors of Chatham Street and Chapel Hill Road, the Walker Street Extension links the commercial, mixed use areas of Downtown Cary to an area currently utilized for low-intensity industrial and light commercial/office activities. The areas north of the tracks will
become high-visibility parcels. With their proximity to Town Hall both as an activity center and major employer, these larger parcels provide great opportunity to be rezoned and developed into higher-intensity mixed use and commercial developments.

- The extension of Walker Street and the proposed improvements at Chatham and Walnut Streets provide a new, convenient north-south route for traffic traversing the downtown core. By creating this new route, through traffic will be able to go around the core in the same time or less than it currently takes to navigate the existing, congested route along Chatham and Academy Streets. The traffic relief on Chatham and Academy Streets will allow for more on-street parking, a safer environment for pedestrians and cyclists, and less air and noise pollution that customers and business owners find detrimental to street dining options.
Environmental Sustainability

The Walker Street Extension Project will improve energy efficiency, reduce dependence on oil, and reduce greenhouse gas emissions.

The Walker Street Extension Project is part of a larger downtown development plan that seeks to accommodate growth, enhance economic development, and provide a net benefit to the local environment with both air quality and water quality improvements.

The NC Capital Area Metropolitan Planning Organization’s (CAMPO) 2040 Metropolitan Transportation Plan (MTP) anticipates that the capital metropolitan planning area will grow by 920,000 people between 2010 and 2040. This is an 87% growth in regional population. In order to minimize the negative air quality impacts and greenhouse gases generated from this high rate of growth and its resultant increase in transportation-related emissions, each municipality in the Triangle is developing plans to 1) assure transportation mode choices are plentiful and reliable and 2) assure that each of the mode choices avoids risk and is efficient. With the downtown area expected to increase in density, with more businesses and residents from a denser and more mixed use economic development plan, it is very important that congestion be reduced to reduce air quality impacts and to increase the safety and reliability of all modes of transportation. The Walker Street Extension Project is a key project that will be instrumental in reducing the environmental impacts of growth and development in the downtown and ensuring safety and accessibility to multiple transportation modes.

The Triangle, of which Cary is a part, is categorized as in maintenance of the national ambient air quality standard (NAAQS) for ground level ozone. However, the driving pollutant for the formation of ground-level ozone is transportation-related NOx. This project will help to mitigate emissions through improved traffic patterns with no at-grade crossing of the railroad and by encouraging non-road modes of transportation by providing safe and efficient pedestrian, bike, and rail options and infrastructure to facilitate getting to and from these choices.

The proposed Walker Street Extension Project will reduce energy use and air pollution by:

- Using energy efficient light-emitting diode (LED) lighting on the bridge, which the Town estimates will reduce the lighting’s carbon impact by 50% or more.
- Reducing idling for north-south corridors (Harrison Avenue and Academy Street), east-west corridors (Chapel Hill Road and Chatham Street), and at the rail crossings for passenger cars, light-duty trucks, heavy-duty trucks, and buses. This will reduce greenhouse gas emissions, NOx, and other NAAQS air pollutants and enhance traffic flow in downtown Cary, which is a current area of focus for economic development efforts.
- Offering transportation options beyond the automobile. The project is part of a larger initiative in Cary to create a safe, livable, efficient, and multimodal transportation system. Biking is a critical part of the community’s quality of life and Walker Street Extension provides a safe alternative for bicyclists, as well as pedestrians, to cross the rail corridor and travel within the downtown. Residents in the vicinity will not have to rely on automobiles to access community services. In addition, visitors to the area will be able to park in the deck north of the existing rail corridor and safely cross the rail corridor to access retail and
cultural events in downtown Cary. These improvements also set the stage for transit-oriented development adjacent to the planned high-speed and the regional rail efforts.

- Using recycled materials during construction to conserve energy and reduce greenhouse gas emissions by decreasing the demand for products made from energy intensive manufacturing processes.  
- Recycling to the extent possible any materials that would have been discarded, preserving natural resources by decreasing the demand for virgin materials; decreasing material costs; and offering enhanced performance.
- Using CAMPO’s 2045 Metropolitan Transportation Plan model, draft expected in fall of 2016, as a regional baseline for greenhouse gas emissions and other NAAQS.

The Walker Street Expansion Project will avoid adverse environmental impacts to air or water quality and provide environmental benefits, such as improved habitat, connectivity, stormwater mitigation, and green infrastructure by:

- Reducing the energy used in the construction project, where feasible, and reducing the overall transportation related emissions, when accounting for high population growth, by improving traffic flow, decreasing idling, increasing safety and associated infrastructure, and supporting non-road transportation choices.
- Treating the net 2.6 acre increase in impervious surface with green infrastructure assets such as bioswales and bioretention basins which both reduce peak runoff volumes and peak flow as well as reduce pollutants like suspended solids and nitrogen. The addition of bioretention basins will promote stormwater runoff infiltration, more closely match natural hydrology resulting in protecting the Black Creek Watershed and the Neuse River Basin from further degradation due to urbanization. Additionally, these areas will reduce the number of retaining walls required, which will create a more open and inviting feeling and make adjacent areas friendlier to bicyclists and pedestrians.
- Contributing to water quality improvements in the highly urbanized 303d-listed Black Creek Watershed which reached near full build-out in the 1990s. The listed stream prompted the creation of the Black Creek Watershed Association which has developed a comprehensive stormwater master plan that includes retrofitting and installation of green infrastructure. The bioswales and bioretention in this linear project will further enhance the green improvements being implemented in the critical watershed. With the basin being fully developed prior to any stormwater management rules and regulations, it will be a welcome addition and rare opportunity to retrofit green infrastructure into an area that would otherwise have few opportunities.
- Creating habitat-friendly bioswales and bioretention basins that have blooming and berry producing plants that support pollinators. Since foot traffic near the green infrastructure will be high, signage explaining the environmental benefits of the green infrastructure and

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the wildlife-friendly plantings will be installed as part of the project. The bioretention basins will also be National Wildlife Federation certified wildlife habitats.

Several elements highlighted in the upcoming section concerning innovations can also be highlighted as environmentally sustainable, including stormwater management best management practices, LED lighting, and the use of recycled materials.

**Safety**

The Walker Street Project will reduce the number, rate, and consequences of surface transportation-related crashes, and injuries and fatalities among drivers, pedestrians, and bicyclists.

The table below compares crash rates within the project area to crash rates statewide. Accident reports received from the NCDOT for a recent time period indicate that project study area roads experience more reported accidents than similarly classified state roads.

Adding capacity and more multi-modal options, signaling certain intersections, and controlling left turns will reduce the number of accidents and enhance safety within the study area. Moving the traffic further away from the center of downtown, along a facility that is designed to accommodate all modes of travel, will improve the overall safety in the vicinity of the project. By constructing a roundabout at the intersection of Wilkinson Avenue, Walker Street, and E Durham Road, there is a high potential to reduce injuries and property damage from vehicle collisions. According to the Insurance Institute for Highway Safety, roundabouts reduce crashes with injuries by 72-80%, and overall crashes by 35-47%. Additionally, by reducing the volumes along Academy Street and Harrison Avenue, the proposed project will allow these corridors to become safer for all users, especially pedestrians and bicyclists. Fewer vehicular delays and higher levels of service will improve traffic flow and overall safety of the study area.

<table>
<thead>
<tr>
<th>Roadway Section</th>
<th>Crashes</th>
<th>Crashes per 100 MVM (1)</th>
<th>Statewide Rate (2)</th>
<th>Critical Rate (3)</th>
<th>Exceeds</th>
</tr>
</thead>
</table>
| North Academy Street (East Cedar Street to Chapel Hill Road) | 19      | 981.38                  | 238.35             | 966.86           | Yes  
(229% higher) |
|                                                      |         |                         |                    |                  | No  
(4% lower)     |
| East Chatham Street (East of Academy Street to east of Walker Street) | 16      | 742.26                  | 238.35             | 777.30           | Yes  
(163% higher) |
|                                                      |         |                         |                    |                  | No  
(4% lower)     |
| Walker Street (Walnut Street to East Cedar Street)   | 9       | 761.03                  | 238.35             | 803.35           | Yes  
(168% higher) |
|                                                      |         |                         |                    |                  | No  
(5% lower)     |

1. MVM = million vehicle miles; 2. 2013 – 2015 Statewide Crash Rate, Urban Secondary Routes; 3. Based on Statewide Crash Rates (95% Level of Confidence)

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The Walker Street Extension Project will contribute to the elimination of a highway/rail grade crossing and, during construction, the protection of pipelines, or the prevention of unintended release of hazardous materials.

- The core component of the project is construction of the first grade-separated, north-south rail crossing in downtown.
- During right-of-way acquisition and prior to construction, the Town will assess the properties that may contain hazardous material sources and coordinate any construction activities before they occur. According to the already conducted NEPA, no significant impacts as a result of hazardous materials are expected as a result of the construction of the proposed project.

VI. SECONDARY CRITERIA

Innovation

Innovative techniques employed for the project include several previously mentioned in the environmental sustainability section: stormwater BMPs, recycled materials, and the use of LED lighting. In addition, the project incorporates many innovative and context-sensitive urban design/art treatments.

The design team for the project includes an artist charged with developing urban design treatments that enhance the aesthetics of the Walker Street Extension Project. Two additional enhancements include incorporation of a sculpture centerpiece on the proposed roundabout as well as wall and planter patterning along custom pre-cast concrete patterns that can reflect LED lighting. The latter will improve the experience of roadway users traveling via the Walker Street Extension below the grade-separated rail bridge. Urban design and art enhancements are summarized in the chart below.

<table>
<thead>
<tr>
<th>TABLE 9. URBAN DESIGN AND ART ENHANCEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Urban Design Enhancements</strong></td>
</tr>
<tr>
<td>• Sidewalk Enhancements</td>
</tr>
<tr>
<td>• Landscaping/Enhanced Landscaped Entries</td>
</tr>
<tr>
<td>• Retaining Wall Terracing</td>
</tr>
<tr>
<td>• Wall Facing (Patterned brick veneer)</td>
</tr>
<tr>
<td>• Wall / Rail Enhancements</td>
</tr>
<tr>
<td>• Laser Cut Panel Enhancements</td>
</tr>
<tr>
<td>• Planter Boxes</td>
</tr>
</tbody>
</table>

The Town of Cary’s Traffic Management Center is a state-of-the-art, advanced traffic management center in downtown Cary and supports 33 CCTV cameras, many of which are located on the streets in the vicinity of the Walker Street project area, and nearly 200 traffic signals on the Town’s 100+ miles of fiber optic communication cable. The system provides live camera feeds to the NCDOT Statewide Traffic Operations Center in Raleigh, local media broadcast outlets, and to the Town’s television channel (CaryTV 11). The system has the capability to become Bluetooth enabled, which is being explored for possible future implementation. C-Tran has a Smartphone app, TransLoc, which provides real-time tracking, arrival predictions, and alerts for the entire transit system. This system ensures passengers are able to travel thru the project area efficiently.
Partnership

The Walker Street project represents an economic improvement and transportation vitality project where the already committed interagency and public/private partnerships are of utmost importance to overall success. The Town of Cary has established and continued several partnerships since the inception of the project. The partners include:

- **State and federal transportation agencies:** NCDOT Rail Division, NCDOT Highway Division 5, NCDOT Bicycle & Pedestrian Division, NCDOT Public Transportation Division, Federal Railroad Administration, Federal Transit Administration, Amtrak;
- **Rail corridor owners and operators:** NC Railroad Company, Norfolk-Southern, and CSX Transportation;
- **Regional planning agencies:** NC Capital Area MPO and Go Triangle; and
- **Local economic development organizations:** Regional Transportation Alliance, Cary Chamber of Commerce, and Heart of Cary Downtown Association.

These ongoing partnerships have helped develop a better and more comprehensive project from what was initially envisioned, including:

- A rail bridge capable of accommodating the two existing tracks, two future tracks and the ability to accommodate up to six tracks;
- Improved intersections extending south to Walnut Street;
- $1 million dollars from private agencies and $4.484 million dollars from federal grants for construction and right-of-way funding;
- A multimodal project supported by all parties in its design and construction; and
- Artistic and aesthetic improvements incorporated in the project design features.

VII. EVALUATION OF PROJECT BENEFITS AND COSTS

The Town of Cary performed an analysis to estimate the costs and the benefits of the Walker Street Extension Project over a 30-year period and discounted to present-day value using a 7 percent real discount rate. Benefits have been estimated with the dollar values recommended by the U.S. DOT or – where specific guidance was not provided – standard industry practice. A summary of the methods, data and assumptions have been provided in the application appendix files.

As can be seen by Table 10, total benefits from the Walker Street Extension project are expected to exceed total costs by about $240 million in present value terms (with a 7 percent real discount rate), leading to a benefit/cost ratio of 11:1. Total project costs are expected to be recovered through improved traffic flow through the center of the Town of Cary resulting in significant reduction in emission pollutants as well as ancillary benefits from accident reduction, and travel time savings.
TABLE 10. SUMMARY OF BENEFIT COST ANALYSIS

<table>
<thead>
<tr>
<th></th>
<th>7% Discount Rate</th>
<th>3% Discount Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Costs</td>
<td>$23,695,998</td>
<td>$31,647,479</td>
</tr>
<tr>
<td>Total Benefits</td>
<td>$270,545,720</td>
<td>$576,637,103</td>
</tr>
<tr>
<td>Benefit/Cost Ratio</td>
<td>11:1</td>
<td>18:1</td>
</tr>
<tr>
<td>Net Present Value</td>
<td>$246,849,722</td>
<td>$544,989,624</td>
</tr>
</tbody>
</table>

Project benefits have been calculated for each long-term outcome selection criterion identified in the Notice of Funding Availability. Table 11 explains how benefits were mapped into the criteria. For example, it was assumed that travel time savings arising from the grade separated bridge investment would contribute to enhancing the competitiveness of the Town of Cary through improvements in the mobility of the workforce.

TABLE 11. BENEFIT ESTIMATES BY LONG-TERM SELECTION CRITERIA

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Cost Categories</th>
<th>Benefit Categories</th>
<th>7% Discount Rate</th>
<th>3% Discount Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>State of Good Repair</td>
<td>Operating Maintenance</td>
<td>Time travel savings</td>
<td>($2,845,059)</td>
<td>($5,465,375)</td>
</tr>
<tr>
<td>Economic Competitiveness</td>
<td></td>
<td>Fuel cost savings</td>
<td>$378,121</td>
<td>$762,157</td>
</tr>
<tr>
<td>Environmental Sustainability</td>
<td></td>
<td>Reduction in Air Emission</td>
<td>$265,187,798</td>
<td>$565,260,266</td>
</tr>
<tr>
<td>Safety</td>
<td>Accident Reduction</td>
<td></td>
<td>$4,919,352</td>
<td>$10,485,831</td>
</tr>
<tr>
<td><strong>Total Benefits</strong></td>
<td></td>
<td></td>
<td>$270,545,720</td>
<td>$576,637,103</td>
</tr>
</tbody>
</table>

VIII. DEMONSTRATED PROJECT READINESS

Project Schedule

The Walker Street Extension project schedule will be able to meet all pre-construction requirements by September 30, 2019 obligation deadline. If awarded a TIGER FY2016 grant, the Town is prepared to spend the funds steadily and expeditiously. The following table outlines key milestones.

TABLE 12. PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Date Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preliminary Design</td>
<td>Winter 2016</td>
</tr>
<tr>
<td>Final Engineering and Design</td>
<td>Fall 2017</td>
</tr>
<tr>
<td>Right-of-way and easement acquisition complete</td>
<td>Fall 2018</td>
</tr>
<tr>
<td>Filings and Approvals</td>
<td>Spring 2019</td>
</tr>
<tr>
<td>Construction begins</td>
<td>Fall 2019</td>
</tr>
<tr>
<td>Construction ends</td>
<td>Winter 2023</td>
</tr>
</tbody>
</table>

Technical Feasibility

The Walker Street Extension project was launched in 2001 as part of the Town Center Area Plan. In July 2007, the Town of Cary selected URS Corporation to develop and study four potential alignment alternatives and their impacts for the proposed Walker Street extension,
between Cedar Street and Chapel Hill Road. During this initiating phase, planning, traffic forecast and analysis, environmental and engineer studies were conducted. The Town also held public information sessions to garner feedback from the community and stakeholders. The initiating phase of the project culminated in the selection of the preferred alternative.

With approval from the public and inter-agency team, preliminary engineering design plans began along with opinion of probable construction cost. The current cost estimate was completed at the 75% preliminary design level. The project team prepared estimates using detailed quantity estimates and unit costs based on bid prices of recent NCDOT projects of similar scope. Where possible, contractors have been contacted to support other unit costs.

A 15% contingency has been factored into the project cost. Decisions regarding contingency amounts for the project were based on the type of construction project being considered, the magnitude and scale of project, and historical practices used on other successful Town projects. The Town also used an engineering consultant to provide their expertise and recommendation on costs and contingency.

To date, the Walker Street Extension project has completed 75% preliminary engineering and 75% of the right-of-way plans. The Town will have final engineering completed by fall 2017. Right-of-way and easement acquisition will be complete no later than fall 2018. All project filings and approvals will be completed prior to Spring 2019.

Financial Feasibility

The project is financially feasible. The cost estimate considers appropriate design and construction contingencies. Estimates have been prepared using detailed quantity estimates and unit prices based on bid prices of recent NCDOT project of similar scope. Where possible, contractors have been contacted to support other unit costs. All funds included in the local share are stable and reliable commitments that will be available immediately upon receipt of a TIGER FY2016 grant award.

Environmental Approvals

An environmental document was completed, in accordance with the National Environmental Policy Act (NEPA), and approved in August 2010. The proposed project is not anticipated to result in any significant impacts to the natural or human environment and is classified as a Federal "Categorical Exclusion" as defined by the Federal Highway Administration’s environmental guidelines (23 CFR 771.117). Based on the preliminary design, the Town of Cary anticipates a Nationwide Permit (NWP) 14 from the United States Army Corps of Engineers will be required for the proposed project as well as a Water Quality Certification pursuant to Section 401 of the Clean Water Act from the North Carolina Department of Environment and Natural Resources, Division of Water Quality. A copy of the CE is provided on the project webpage and with the application.

Legislative Approvals

No additional legislative approvals are required.
State and Local Planning

The proposed Walker Street Extension Project is consistent with state and local planning efforts. The project is included in both the Cary Comprehensive Transportation Plan and NC Capital Area MPO Metropolitan Transportation Plan. It is also programmed in the 2016 Statewide Transportation Improvement Program (U-5117).

Assessment of Project Risk and Mitigation Strategies

The Town has assessed risks to the Walker Street project as proposed in this application, and has not identified any material risks that will prevent the obligation of funds provided through the TIGER grant program. The Town of Cary has had numerous technical discussions with NCRR, CSX, NSR, and CAMPO to define expectations for the project, including the tunnel structure needed to cross the NCRR rail corridor. The Town identified the acquisition of four additional parcels to secure the complete right-of-way for the project as a potential risk to the project. The Town of Cary is aware of assessed value of each property and has a solid history of providing fair purchasing practices for acquiring right-of-way and easements for projects. The Town will continue these business practices to ensure that affected property owners are treated fairly and equitably. The Town has an established track record of keeping projects on schedule even if it requires condemnation. All risks have been accounted for in the above schedule to avoid project delay.

IX. FEDERAL WAGE CERTIFICATION

The Town of Cary will comply with the requirements of Subchapter IV of Chapter 31 of Title 40, United States Code (Federal wage rate requirement) if awarded TIGER FY2016 funding for the Walker Street Extension Project. The Federal Wage Certification Statement is included in the application attachments.