

# Connected Vehicle Technology Master Plan

Georgia Smart Communities Challenge 2018

## Proposal Lead

Gwinnett County, GA  
A Metropolitan Atlanta Community

## Proposal Team ID

7692KE

## In Collaboration With

City of Berkeley Lake, GA  
City of Duluth, GA  
City of Norcross, GA  
City of Suwanee, GA  
Georgia Department of Transportation

## Point of Contact

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75 Langley Drive  
Lawrenceville, GA 30046



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## **1 Project Narrative**

This application is a grant proposal from Gwinnett County which requests funding and technical assistance to develop a Connected Vehicle Technology Master Plan. The proposed one-year study will bridge the gap between the Gwinnett County ITS Master Plan Update (March 2017) and the Peachtree Industrial Boulevard Smart Corridor project scheduled to begin in 2019. The Connected vehicle master plan will be used to evaluate seamlessness and compatibility with other systems, a public outreach strategy, and important benefit/cost considerations. The PIB Smart Corridor project is envisioned to be the backbone of a smart technology roadway network which will ultimately cover the entire Atlanta region. Initially, the pilot scheme will cover 50 intersections over a 20-mile stretch of roadway through areas which experience some of the highest traffic counts in the region. Using a smart risk approach, our local traffic system will demonstrate what is possible with recent scientific advances.

### **1.1 Vision**

The County desires to set the standard for the application of connected vehicle technology. Locally, the project will use the latest technological advances in traffic management systems to improve traffic congestion and reduce crashes in the Peachtree Industrial Boulevard corridor. Beyond that, County leadership envisions that this project will be the first of several and will have broad applicability in the Atlanta region and across the country. The project will show how to set up a connected vehicle system, including costs, benefits, applications, equipment, both hardware and software, and personnel requirements. The project will help agencies charged with traffic safety and mobility manage expectations, costs, and fully realize the benefits of these new technologies.

#### Current Conditions

Currently, the majority of signalized intersections in Gwinnett County are controlled utilizing pre-timed time-of-day signal plans. Each plan is based on the estimated volume for each approach to the intersection for a time of day. Using these traffic counts, engineers apply their judgment, training, and knowledge of local travel patterns to develop a signal timing plan which maximizes throughput. This system can be remarkably efficient because peak travel periods can be reasonably anticipated. However, the system is not “smart” inasmuch as the timing plan does not respond to actual field conditions. The traffic signal will operate according to its pre-programmed settings regardless of weather, traffic mix, or type of vehicles approaching the intersection. In recent years, traffic responsive operation has been implemented on Peachtree Industrial Boulevard and a few other corridors in Gwinnett County, but it is dependent upon the same plans and limitations of existing vehicle detection.

#### Motivating Factors

As traffic continues to increase, local and state agencies are looking to take advantage of technological advances to better manage traffic. The Atlanta Regional Commission forecasts that the 20-county Atlanta region will add 2.5 million people and 1.5 million jobs by 2040. With this growth, simply put, we must find better ways to manage traffic on the surface roadway systems in the region. Technology is the answer because the traditional intersection improvement project is not sustainable for at least two reasons. One, as metro Atlanta suburban areas become more developed and dense, at many locations, it is prohibitively expensive to acquire land necessary

for additional lane capacity. Where land is available, adding through lanes and turn lanes can effectively increase intersection throughput and reduce delays. However, the footprint of these large, suburban intersections results in a hostile environment for pedestrians and other more vulnerable population groups. Furthermore, for motorists, large complex intersections result in longer distances traveled. Longer distances increases the time spent in the intersection which may create the conditions for higher numbers of crashes and more injury accidents. Modern roundabouts have distinct, proven safety and other benefits but also require a large bite of land. Unfortunately, many intersections in Gwinnett County and throughout the Atlanta region exceed the operational capacity of modern roundabouts.

### Citizen Input

Between June 2015 and December 2017, Gwinnett County was engaged in an update to its Comprehensive Transportation Plan (CTP). Public involvement in the CTP, in terms of the number of contacts and meaningful input received, was unprecedented for a county-level planning project. The Public Outreach Element of the CTP included two rounds of public meetings held at 6 locations around the County, 7,000+ online survey participants and 27 Stakeholder interviews. Stakeholders included senior citizens, special interest group representatives, students, business interests, and adjacent communities. County staff and consultants also attended 25 community events and met over 1000 people face-to-face. In sum, the public outreach was an ambitious effort in terms of planning, staff hours and logistical considerations but it resulted in a tremendous amount of important input from citizens.

As a first step, the community agreed that the plan vision would be driven by these five goals:

- Improve Connectivity
- Leverage the County's Transportation System to Improve Economic Vitality and Quality of Life
- Improve Safety and Mobility for All People Across All Modes of Travel
- Proactively Embrace Future Transportation Opportunities
- Continue to Serve as Responsible Stewards of Transportation Resources

The PIB Smart Corridor project and the overall investment in connected vehicle technology align with and support each of these goals. The project *improves connectivity* by facilitating travel along a corridor which serves local and inter-county trips. Peachtree Industrial Boulevard is a vital link for home-based work trips between western Gwinnett County and job centers located in DeKalb, Fulton, and Forsyth Counties.

The investment in connected vehicle technology *leverages the County's transportation system to improve economic vitality and quality of life* by reducing congestion and reducing serious injury crashes. Employers benefit from a rich source of workers based within a reasonable commuting distance, called the commute shed. As trip times increase due to congestion, this commute shed becomes smaller. Similarly, qualified workers will not pursue jobs, even if the job is otherwise attractive, if commute times are excessive.

The *project improves safety and mobility for all people across all modes of travel* because connected vehicle technology (vehicle-to-cyclist) can communicate the speed and heading of approaching vehicles to the cyclists. Connected intelligent traffic control device technology can alert the pedestrians if there are speeding vehicles approaching and warns the vehicle driver if there are pedestrians or active crosswalks ahead.

Exploring bold, creative solutions is an example of *proactively embracing future transportation opportunities*. Highly experienced county staff will team with a research partner from the Georgia Tech School of Civil and Environmental Engineering to implement a traffic system which is at the cutting edge of what is possible with recent scientific advances.

The smart risk approach helps ensure that the resulting investment is an example of being *responsible stewards of transportation resources*. The study will evaluate the hardware to be used and make recommendations regarding compatibility with the state's system and obsolescence. The study will evaluate scalability and design considerations both in terms of what is needed now as well as what will be needed to handle system growth.

### Prior Efforts

Gwinnett County was an early adopter of ITS/ATMS in the Atlanta Region. The County's award winning traffic signal and ITS design projects have expanded the ITS system throughout Gwinnett County with communications and camera coverage along most all arterials. Gwinnett County currently has a state-of-the-art Traffic Control Center (TCC) in Lawrenceville, Georgia. This facility includes an operations room from which operators monitor traffic conditions and intersection operations and take the appropriate action to mitigate congestion, expedite incident clearance. The County's ITS master plan includes a number of projects to install fiber optic network communications along major corridors in the County along with filling in gaps with CCTV video surveillance. The ITS network originates from the TCC and follows major road corridors and interconnects traffic signal controllers and other ITS devices such as Ethernet-based Closed Circuit Television (CCTV) and other ITS devices and subsystems. It also provides a solid foundation for additional technologies such as conflict detection and mitigation technologies.

In 2016, Gwinnett County identified the need to upgrade its school zone beacon control system from pager programmable technology that only provided one way communications. Through a request for proposals process, the County procured and installed a new system with a cloud hosted central software and control units with cellular modems. This new system provided two way communications and allowed for active management of the school zone beacons. The project resulted in a 75% reduction in citizen requests related to school zone beacons for the 2016-2017 school year compared to the previous two school years.

### Long-Term Goals

The project will also involve deployment of current and pioneering traffic sensor/detection technology in the targeted areas. Beyond daily and hourly operational improvements, after deployment, there could be a post-integration phase to integrate data derived from monitors into a single exchange platform. This comprehensive set of data and communication standards will support advanced technology deployment throughout the entire Atlanta region.

### Envisioned Future State

The desired short-term future state shuns incrementalism and does not rely upon traditional approaches to improving traffic progression and safety. Communities, large and small, urban and suburban, will have a new model to follow which reflects a quantum leap in the application of technology to traffic signal systems. The future of transportation will be autonomous and connected. The goal is that traffic delays and crashes due to human error will be eliminated. Hardware and software will be scalable, affordable, universal. Errors are not acceptable in this

industry so therefore the system will be built with redundancies and fail-safe features. But to get to that future state, we must first start with a plan.

## **1.2 Framework**

The Connected Vehicle Technology Master Plan will develop knowledge and/or experience that is transferable to multiple locations in Georgia and nationally. To date, a majority of the connected vehicle pilot programs have been limited to test cases along interstates or in central business districts. While this was a logical place to start, the majority of home-based trips are made in a suburban setting, along surface roads with irregularly spaced, at-grade intersections. A master plan is needed to ensure that the expanded deployment and use of the traffic safety technology is uniform and suitable across a wide spectrum of travel scenarios.

## **1.3 Plan**

The Peachtree Industrial Boulevard (PIB) Smart Corridor project deployment includes equipping intersections along the route with connected vehicle technology to enable the traffic signal controllers to communicate with vehicles, cyclists, and pedestrians. A combination of radio and cellular technologies would be deployed. Emergency vehicles (for the first responders) will also be equipped to communicate with the intersections. The school beacon system will receive software updates to enable these devices to also communicate with vehicles. The pilot scheme envisaged would cover 50 intersections, fire and other emergency vehicles, transit vehicle priority, and 20 school beacons. This project will commence in late 2019.

The core need or crux of this proposal is to develop a master plan which ensures that all equipment and technology choices selected for the PIB Smart Corridor project speak the same language through a standard technology. The plan will provide guidance so that the installed equipment and technology choices meet the short-term and long-term needs. Specifically, the plan will address the following:

- Technology obsolescence - Investing in new technology is progressive and can pay dividends but it is not without risk. The goal of the study will be to make recommendations which avoid investing in technology and systems which may become obsolete.
- Sub-area customization - PIB changes character as it stretches from Peachtree Corners to Buford/Sugar Hill. The study will make recommendations for deployment in the relatively dense area in Norcross and Peachtree Corners. As the roadway continues north, the land use, traffic volumes and travel speeds change significantly. The study will match the technology and equipment appropriate for the particular environment.
- Seamlessness & compatibility - In October 1999, the United States Federal Communications Commission (FCC) allocated 75 MHz of spectrum in the 5.9 GHz band to be used by intelligent transportation systems (ITS). This block of the spectrum can be used for “vehicle-to-vehicle” and “vehicle to infrastructure” communications. Major automakers, state regulators and others are working to finalize standards for the technology and protect the spectrum that has been reserved. The study will provide

guidance on adopting technology and investing in equipment which uses free, open, and common communication channels. In addition to national standards, the City of Atlanta, the Georgia Department of Transportation and other regional agencies are currently exploring how emerging technologies and new mobility options can improve transportation. The master plan will ensure seamless travel and maximum utilization of the structure in place throughout the region.

- Benefit/cost - Highly specialized equipment may be expensive but only provides a marginal benefit. Conversely, it may be wise to make an investment now in equipment or “overdesign” the system, because expansion later would be impractical. The master plan will provide guidance on financial stewardship.
- Balance Safety vs. Congestion - Some technology is used primarily to keep traffic moving while other applications primarily help reduce crashes. As both are important, the study can help manage expectations for the chosen technology as well as guide investment decisions.
- Need for Traffic modeling and micro-simulation - When a new traffic operational change is proposed, it may be necessary to perform traffic simulation at complex intersections. The study will provide guidance on which specific intersections require an exact simulation of traffic patterns.
- Schedule - The master plan will identify critical execution points. The master plan could recommend incremental testing at various stages of deployment.
- Need for public outreach/education - The importance of a sound public outreach plan cannot be overstated for the PIB Smart Corridor project. First and foremost, to ensure a safe transition from the existing state to a future which uses new technology, a significant public awareness campaign will be needed. The study will advise on effective ways to present information to the public. Secondly, it is critical to understand the multiple perspectives on the problems that will be addressed by the proposed project. The master plan will identify all potential stakeholders and will spell out effective communication activities which will occur throughout the process.

#### **1.4 Research**

Gwinnett County staff and its consultants are poised to collaborate with its Georgia Tech research partner, Dr. Guin (see Section 2.2, Personnel Plan). The County eagerly anticipates the opportunity to have access to world class talent and resources available at our state’s premier research institute. The research activities to be performed include:

- Evaluation of Technical Equipment - A major strategic point of deploying this new technology is investment in public infrastructure and facilities. The extent of investment that will be required of local governments is uncertain. The County will consult with its research partners to evaluate sensor networks, “Fifth Generation” (5G) broadband, and

data storage and processing capacity which will be needed to support connected vehicle technology.

- Safety Analysis - A primary potential benefit of a connected vehicle system is fewer traffic deaths and injuries by preventing accidents caused by driver error. Transportation safety is a highly specialized field. Any changes to the normal traffic operations require sophisticated planning and a sound implementation strategy. The traffic engineering and scientific expertise which will be available due to the partnership with Georgia Tech will help ensure that the system operates safely for all users.
- Traffic Operations & Simulation - The installation of various types of sensors and communications will likely lead to a change in traffic signals, signs, and street markings. Solving complex engineering problems will require the resources available at a top notch academic institution to develop the fundamental underpinnings of a system which will serve as a model for deployment region-wide.

## 2 Execution Plan

The process will start with a carefully prepared, detailed project scope. Gwinnett County, following its normal procurement processes, will advertise for, receive and evaluate proposals from qualified teams. Among the criteria to be considered will be the firms experience with advanced traffic systems and its approach to the project. Once the team has been selected, County staff will work in close collaboration its Georgia Tech research partner to develop an academic-quality plan subject to peer review, scrutiny, and ultimately suitable for use as a research document and guide for connected vehicle technology deployment.

### 2.1 Cost Plan

The total estimated cost of the Connected Vehicle Technology Master Plan is \$150,000. Gwinnett County will use a grant of \$50,000, matched by \$100,000 in local funds, to develop the plan. The source of the local matching funds is the 2014 Special Purpose Local Option Sales Tax (SPLOST) - Transportation Planning Category. The Gwinnett County Board of Commissioners (BOC) approved the overall 2014 SPLOST program, including categorical allocations on April 16, 2014 (GCID# 2014-0259). The Gwinnett BOC approved the Georgia Smart Communities Challenge 2018 grant application, including \$100,000 in matching funds, at the April 17, 2018 public hearing (GCID# 20180365).

The table below shows the total project costs per activity per month:

**Connected Vehicle Technology Master Plan**  
**Total Project Costs per Activity, per Month**

Activity	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Total
Project Management	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$12,000.00
Database Development	\$3,000.00	\$1,000.00											\$4,000.00
Existing Conditions			\$10,000.00	\$10,000.00									\$20,000.00
Needs & Technology Assessment					\$12,800.00	\$12,800.00	\$12,800.00	\$12,800.00	\$12,800.00				\$64,000.00
Recommendations										\$5,000.00	\$15,000.00	\$20,000.00	\$40,000.00
Public Outreach Plan											\$5,000.00	\$5,000.00	\$10,000.00
<b>Total</b>	<b>\$ 4,000</b>	<b>\$ 2,000</b>	<b>\$ 11,000</b>	<b>\$ 11,000</b>	<b>\$ 13,800</b>	<b>\$ 6,000</b>	<b>\$ 21,000</b>	<b>\$ 26,000</b>	<b>\$150,000.00</b>				

## 2.2 Personnel Plan

**Mr. Thomas Sever, P.E.,** (B.C.E Civil Engineering, Georgia Institute of Technology, 1993; Registered Professional Engineer, Georgia 25537, 1999) will be the designated individual who will serve as the project's lead and point-of-contact once the study is underway. Tom has over 23 years of experience in traffic engineering and Intelligent Transportation Systems (ITS) design, planning and operations in both the private and public sector. He has extensive experience in managing traffic signal and ITS design projects and then seeing those projects through the construction phase. He has also managed numerous traffic signal timing optimization projects.

Since 2000, Tom has been with Gwinnett County DOT and was the chief engineer of the Traffic Signal and ITS Section for 10 years. In June 2017, Tom was promoted to the position of Traffic Engineering Division Director. In December 2017, Tom was again promoted to the position of Deputy Director for Traffic Engineering, Operations and Maintenance.

Tom is an active member of the Institute of Transportation Engineers and received the **2015 Larry R. Dreihaup Award** for contributions to ITS from *ITS Georgia*.

**Dr. Angshuman Guin** has agreed to serve as the Georgia Tech research partner for the project. Dr. Angshuman Guin is a Senior Research Engineer in the School of Civil and Environmental Engineering. He is a transportation systems engineer with 12 years' experience in freeway operations, intelligent systems, transportation safety, and traffic simulation and data management. Dr. Guin's current research is focused on SmartCity mobility, connected-and-autonomous-vehicles, freeway operations, ramp metering, and traffic simulations and is working projects for the National Science Foundation, Federal Highway Administration, GDOT, and GRTA.

**Mr. Ken Keena, P.E.,** has 18 total years of experience as an ITS/signal engineer including 12 years at Gwinnett County. Ken is currently the ATMS/ITS Section Manager. The ATMS/ITS Section is responsible for the operation and maintenance of all traffic signals, flashing beacons, and ITS devices in Gwinnett County as well as the communications infrastructure that supports it. Ken has extensive knowledge and experience with the construction, maintenance, and operations of ITS/signal projects gained in managing transportation projects, ITS deployments, and TMC operations. His responsibilities included providing construction oversight for ITS deployment projects, conducting traffic signal timing studies, maintaining the County's ITS network, and providing technical assistance for maintaining the County's communication network. During Ken's tenure with the County, he implemented changes to improve the County's traffic signal system, provided assistance in cost analysis for ITS projects, prepared purchase orders, and researched technical specification for new technologies.

A team organizational chart showing the organization and role of all relevant participants is included in Appendix C.

The table below is a list of key personnel who are anticipated to participate in the project, their role on the project, the amount of time committed to the project, and their relevant qualifications.

Name	Relevant Qualifications	Organization	Time Commitment	Primary Project Role
<b>Thomas Sever, P.E.</b>	Registered Professional Engineer with over 23 years of experience in traffic engineering and Intelligent Transportation Systems (ITS) design, planning and operations in both the private and public sector.	Gwinnett County	10-20%	Overall project manager. Will approve traffic signal designs, intersection improvements, arterial ITS designs, utility coordination, sign and marking plans, concept reports, and cost estimating.
<b>Ken Keena, P.E.</b>	Registered Professional Engineer; 18 years of experience with traffic signal and fiber optic communications designs.	Gwinnett County	10-20%	Assist with design plans for the corridor. Responsibilities include preliminary traffic signal and fiber optic communications designs, plans production, equipment specifications, site investigation and inventories, and utilities coordination meetings.
<b>Angshuman Guin, Ph.D.</b>	Transportation systems engineer with 12 years of experience in freeway operations, intelligent systems, transportation safety, and traffic simulation and data management.	Georgia Institute of Technology	tbd	Will serve as the Georgia Tech research partner for the project. Experience in intelligent systems, transportation safety, and traffic simulation and data management. Will advise on mobility and connected-and-autonomous-vehicles
<b>Alex Hofelich, P.E., PTOE</b>	18+ years of experience in traffic engineering services to the public as both a public employee and private contractor. Specialties include signs, pavement markings, signals, signal timing, traffic studies, project management and design review.	Gwinnett County	10%	Responsible for design plans, specifications, and approval of cost estimates. Will be responsible for assessing existing infrastructure and identifying gaps. Will direct and review technology evaluations (wireless communications, data collection, Ethernet communications) for potential application and suitability for use on arterial roadways.
<b>Kristin Phillips, P.E.</b>	13 years of experience in traffic engineering. Detailed knowledge and understanding of all aspects of Project Management. Specialty areas include Intelligent Transportation Systems (ITS) and traffic flow algorithms.	Gwinnett County	10%	As signal timing manager, responsibilities include preparing recommendations for traffic signal timing coordination improvements, preparing traffic signal timing plans, and collecting, tabulating and analyzing traffic information.
<b>Vincent Edwards, AICP</b>	A certified planner with the American Institute of Certified Planners (AICP). Specialty areas include public policy, project financing, inter-governmental coordination, and public outreach.	Gwinnett County	10%	Prepare program goals and budgets for the project. Responsible for reviewing project scope, budget, and schedule to complete work at the program level. Responsible for reviewing invoices and processing grant reimbursement requests. Coordinate with stakeholders to maximize project efficiencies.



**Appendix A Letters of Support**

## Board of Commissioners

75 Langley Drive • Lawrenceville, GA 30046-6935  
770.822.7000 • www.gwinnettcountry.com

Charlotte J. Nash, Chairman  
Jace W. Brooks, District 1  
Lynette Howard, District 2  
Tommy Hunter, District 3  
John Heard, District 4



gwinnettcountry

May 1, 2018

Dear Georgia Smart Communities Challenge Grant Selection Committee member,

As the chief elected official for Gwinnett County, it is my privilege every year to deliver a State of the County address. In February of this year, in a speech to county residents, business leaders, members of the press and other interested stakeholders, I spoke about the County's long history of a pioneering spirit, community involvement, and its focus on resolute, long term planning.

This year's speech was special to me because 2018 marks our 200th birthday. Two hundred year after our founding, we remain a community of pioneers, with many of our residents arriving from around the globe, seeking opportunity and prosperity, settling here and working alongside home grown pioneers who continue to innovate and make our community better.

A prime example of our pioneering spirit is the County's investment in the Peachtree Industrial Boulevard (PIB) Smart Corridor project. As we seek grant funds for a connected vehicle master planning study, I am particularly thrilled about the prospect of experienced Gwinnett DOT staff members working with their Georgia Tech research partners to help us challenge the status quo, make bold recommendations, experiment and adapt technology. Together, using a smart risk approach, we can implement a traffic system which is at the cutting edge of what is possible with recent scientific advances.

The timing for this master plan could not be better. The proposed one-year study will bridge the gap between the Gwinnett County ITS Master Plan Update (March 2017) and the PIB Smart Corridor project scheduled to begin in 2019. The Smart corridor master plan will be used to evaluate seamlessness and important benefit/cost considerations. The PIB Smart Corridor project is envisioned to be the backbone of a smart technology roadway network which will ultimately cover the entire Atlanta region. Initially, the pilot scheme will cover 50 intersections over a 20-mile stretch of roadway through areas which experience some of the highest traffic counts in the region.

On behalf of the citizens of Gwinnett County, I strongly support this grant application and acknowledge the specific roles and responsibilities that we will fulfill as we enter into a partnership with Georgia Smart.

With best regards,

A handwritten signature in blue ink that reads "Charlotte J. Nash".

Charlotte J. Nash, Chairman  
Gwinnett County Board of Commissioners

Russell R. McMurry, P.E., Commissioner



GEORGIA DEPARTMENT OF TRANSPORTATION

One Georgia Center, 600 West Peachtree Street, NW  
Atlanta, Georgia 30308  
Telephone: (404) 631-1000

May 1, 2018

Georgia Smart Communities Challenge  
Grant Selection Committee

Dear Georgia Smart Communities Challenge Grant Selection Committee member:

The Georgia Department of Transportation supports the Gwinnett County's Georgia Smart project grant application to develop a Connected Vehicle Technology Master Plan.

It has been determined that the first phase of Gwinnett's connected vehicle program will occur in the Peachtree Industrial Boulevard corridor. As such, residents in several cities and surrounding counties are affected by traffic on Peachtree Industrial Boulevard.

We appreciate the goals and objectives of the Georgia Smart Communities Challenge and I urge Georgia Smart to approve the grant funds being requested by Gwinnett County. The proposed improvements reimagine traditional approaches to addressing traffic and safety and lay the groundwork for what will be a truly transformative system.

Thank you for your consideration in this matter and we look forward to collaborating with you, the County and our other partner cities in the Peachtree Industrial Boulevard corridor to fully realize the benefits of connected vehicle technology.

Sincerely,

A handwritten signature in blue ink, appearing to read "A. Heath", is written over a horizontal line.

PP Andrew Heath, PE  
State Traffic Engineer  
Georgia Department of Transportation  
935 East Confederate Ave SE  
Building 24  
Atlanta, GA 30316  
404-635-2828



4040 S. Berkeley Lake Road, NW • Berkeley Lake, Georgia • 30096-3016  
Phone 770-368-9484 • [www.berkeley-lake.com](http://www.berkeley-lake.com)

April 23, 2018

Dear *Georgia Smart* Communities Challenge Grant Selection Committee members:

The City of Berkeley Lake supports the Gwinnett County's *Georgia Smart* project grant application to develop a Connected Vehicle Technology Master Plan.

It has been determined that the first phase of Gwinnett's connected vehicle program will occur in the Peachtree Industrial Boulevard corridor. Of its 22-mile length in Gwinnett, approximately 2 of those miles are within the city limits of the City of Berkeley Lake. As such, practically every resident, business and employee in the city is affected by traffic on Peachtree Industrial Boulevard.

We appreciate the goals and objectives of the *Georgia Smart* Communities Challenge and I urge *Georgia Smart* to approve the grant funds being requested by Gwinnett County. The proposed improvements reimagine traditional approaches to addressing traffic and safety and lay the groundwork for what will be a truly transformative system.

Thank you for your consideration in this matter and we look forward to collaborating with you, the County and our other partner cities in the Peachtree Industrial Boulevard corridor to fully realize the benefits of connected vehicle technology.

Sincerely,

Lois D. Salter

Mayor



*City of Duluth  
Office of the Mayor  
Nancy Harris*

*3167 Main Street  
Duluth, GA 30096  
Phone (770) 497-5321  
Fax (770) 623-2765*

April 23, 2018

Dear Georgia Smart Communities Challenge Grant Selection Committee members:

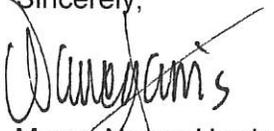
The City of Duluth supports the Gwinnett County's Georgia Smart project grant application to develop a Connected Vehicle Technology Master Plan.

It has been determined that the first phase of Gwinnett's connected vehicle program will occur in the Peachtree Industrial Boulevard corridor. Of its 22 mile length in Gwinnett, approximately 5.2 miles is within the city limits of the City of Duluth. As such, practically every resident in the city is affected by traffic on Peachtree Industrial Boulevard.

We appreciate the goals and objectives of the Georgia Smart Communities Challenge and I urge Georgia Smart to approve the grant funds being requested by Gwinnett County. The proposed improvements reimagine traditional approaches to addressing traffic and safety and lay the groundwork for what will be a truly transformative system.

Thank you for your consideration in this matter and we look forward to collaborating with you, the County and our other partner cities in the Peachtree Industrial Boulevard corridor to fully realize the benefits of connected vehicle technology.

Sincerely,

  
Mayor Nancy Harris  
City of Duluth



MAYOR BUCKY JOHNSON · MAYOR PRO TEM JOSH BARE · COUNCILMAN DAVID MCLEROY · COUNCILMAN CRAIG NEWTON  
COUNCILMAN ANDREW HIXSON · COUNCILMAN PIERRE LEVY · CITY MANAGER RUDOLPH SMITH · CITY CLERK MONIQUE LANG

April 24, 2018

Dear Georgia Smart Communities Challenge Grant Selection Committee members:

The City of Norcross supports the Gwinnett County's Georgia Smart project grant application to develop a Connected Vehicle Technology Master Plan.

It has been determined that the first phase of Gwinnett's connected vehicle program will occur in the Peachtree Industrial Boulevard corridor. Of its 22 mile length in Gwinnett, approximately 2 miles <see reference table below> is within the city limits of the City of Norcross. As such, practically every resident in the city is affected by traffic on Peachtree Industrial Boulevard.

We appreciate the goals and objectives of the Georgia Smart Communities Challenge and I urge Georgia Smart to approve the grant funds being requested by Gwinnett County. The proposed improvements reimagine traditional approaches to addressing traffic and safety and lay the groundwork for what will be a truly transformative system.

Thank you for your consideration in this matter and we look forward to collaborating with you, the County and our other partner cities in the Peachtree Industrial Boulevard corridor to fully realize the benefits of connected vehicle technology.

Sincerely,

Craig Newton, Mayor

Reference table:

City	Miles of PIB in City
Buford	3
Sugar Hill	4
Suwanee	2.8
Duluth	5.2
Berkeley Lake	2
Peachtree Corners	2.5
Norcross	2

## **Appendix B Documentation of Financial Support**

# Gwinnett County Board of Commissioners Agenda Request

<b>GCID #</b>	Group With GCID #:	<input checked="" type="checkbox"/> Grants	<input checked="" type="checkbox"/> Contracts	<input type="checkbox"/> Rezoning	<input type="checkbox"/> Public Hearing
20180365					
Department:	Transportation	Date Submitted:	03/27/2018		
Working Session:	04/17/2018	Business Session:	04/17/2018	Public Hearing:	
Submitted By:	jehoward	Multiple Depts?	No		
Budget Type:	Capital	Special Routing:			
Agenda Type	Approval/authorization	Rezoning Type			
Item of Business:	Locked by Purchasing			No	

to apply for and accept grant funding from the Georgia Smart Communities Challenge, through the Georgia Institute of Technology, which will allow the County to complete a connected vehicle technology master plan. Federal funding up to \$50,000.00 through Atlanta Regional Commission with a required local match of \$100,000.00 from the 2014 SPLOST Program. Authorization for the Chairman or designee to execute any and all documents related to this application. Subject to approval as to form by the Law Department.

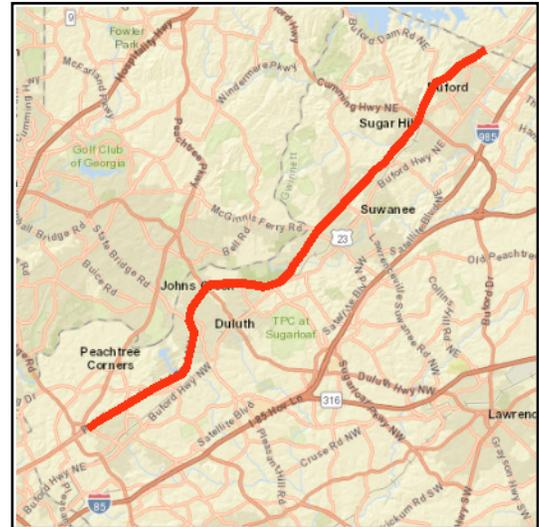
Attachments	Justification, Application, Action List				
Authorization:	Chairman's Signature?	Yes <input type="checkbox"/>			
Staff Recommendation	Approval				
Department Head	Icooksey (3/29/2018)				
Attorney	dsmorelli (4/9/2018)				
Attorney's Comments					
Agenda Purpose Only	<input checked="" type="checkbox"/>	As To Form	<input type="checkbox"/>	Hold for Pickup?	<input type="checkbox"/>

### Financial Services Use Only

Financial Action Requested	Adjust appropriations and revenue as necessary upon award and execution of agreement.				
	Budgeted	Fund Name	Current Balance	Requested Allocation	Director's Initials
	No	2014 SPLOST-Grants	*	\$50,000	mbwoods (4/5/2018)
	Yes	2014 SPLOST	\$100,000**	\$100,000	
Finance Comments	* Grant budget will be established upon award and execution of agreement. ** Amount available in the SPLOST Trans Planning project.				FinDir's Initials
					bjalexzulia (4/5/2018)

<b>County Clerk Use Only</b>			PH was Held? <input type="checkbox"/>
Working Session	<input type="text"/>		Vote
Action	<input type="text" value="New Item"/>		
Tabled	<input type="text"/>		
Motion	<input type="text"/>		
2nd by	<input type="text"/>		

<b>Short Title</b>	PEACHTREE INDUSTRIAL BOULEVARD - SMART CORRIDOR IMPROVEMENTS FROM HOLCOMB BRIDGE ROAD TO HALL COUNTY LINE
<b>GDOT Project No.</b>	N/A
<b>Federal ID No.</b>	N/A
<b>Status</b>	Programmed
<b>Service Type</b>	Roadway / Operations & Safety
<b>Sponsor</b>	Gwinnett County
<b>Jurisdiction</b>	Gwinnett County
<b>Analysis Level</b>	Exempt from Air Quality Analysis (40 CFR 93)



<b>Existing Thru Lane</b>	N/A	<b>LCI</b>	<input type="checkbox"/>	<b>Network Year</b>	TBD
<b>Planned Thru Lane</b>	N/A	<b>Flex</b>	<input type="checkbox"/>	<b>Corridor Length</b>	20 miles

**Detailed Description and Justification**

This project address regional mobility and technology advancement. The project deployment includes equipping intersections along the route with connected vehicle technology to enable the traffic signal controllers to communicate with vehicles, cyclists, and pedestrians. A combination of radio and cellular technologies would be deployed. Emergency vehicles (for the first responders) will also be equipped to communicate with the intersections. The school beacon system will receive software updates to enable these devices to also communicate with vehicles. The pilot scheme envisaged would cover 50 intersections, 10 emergency vehicles, 5 pedestrian crossings, and 20 school beacons.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
CST	Surface Transportation Block Grant (STBG) Program - Urban (>200K) (ARC)		2020	\$2,646,650	\$2,117,320	\$0,000	\$0,000	\$529,330
				<b>\$2,646,650</b>	<b>\$2,117,320</b>	<b>\$0,000</b>	<b>\$0,000</b>	<b>\$529,330</b>

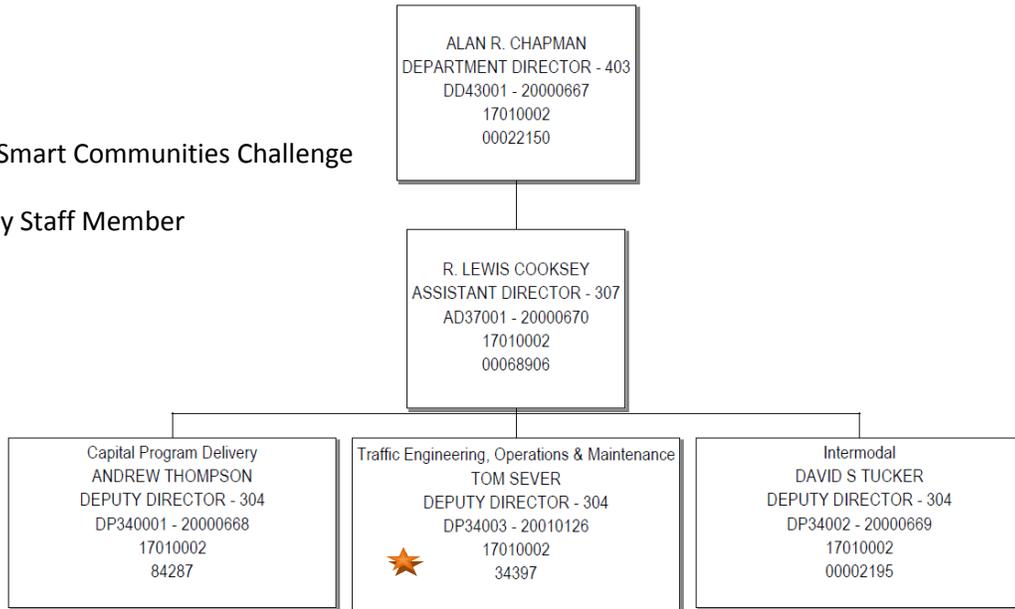
SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquisition  
 UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases

**Appendix C Organizational Chart**

**Gwinnett County Department of Transportation  
Upper Management  
May 1, 2018**

 = Georgia Smart Communities Challenge

Key Staff Member



**Gwinnett Department of Transportation Traffic Engineering Division  
as of May 7, 2018**

