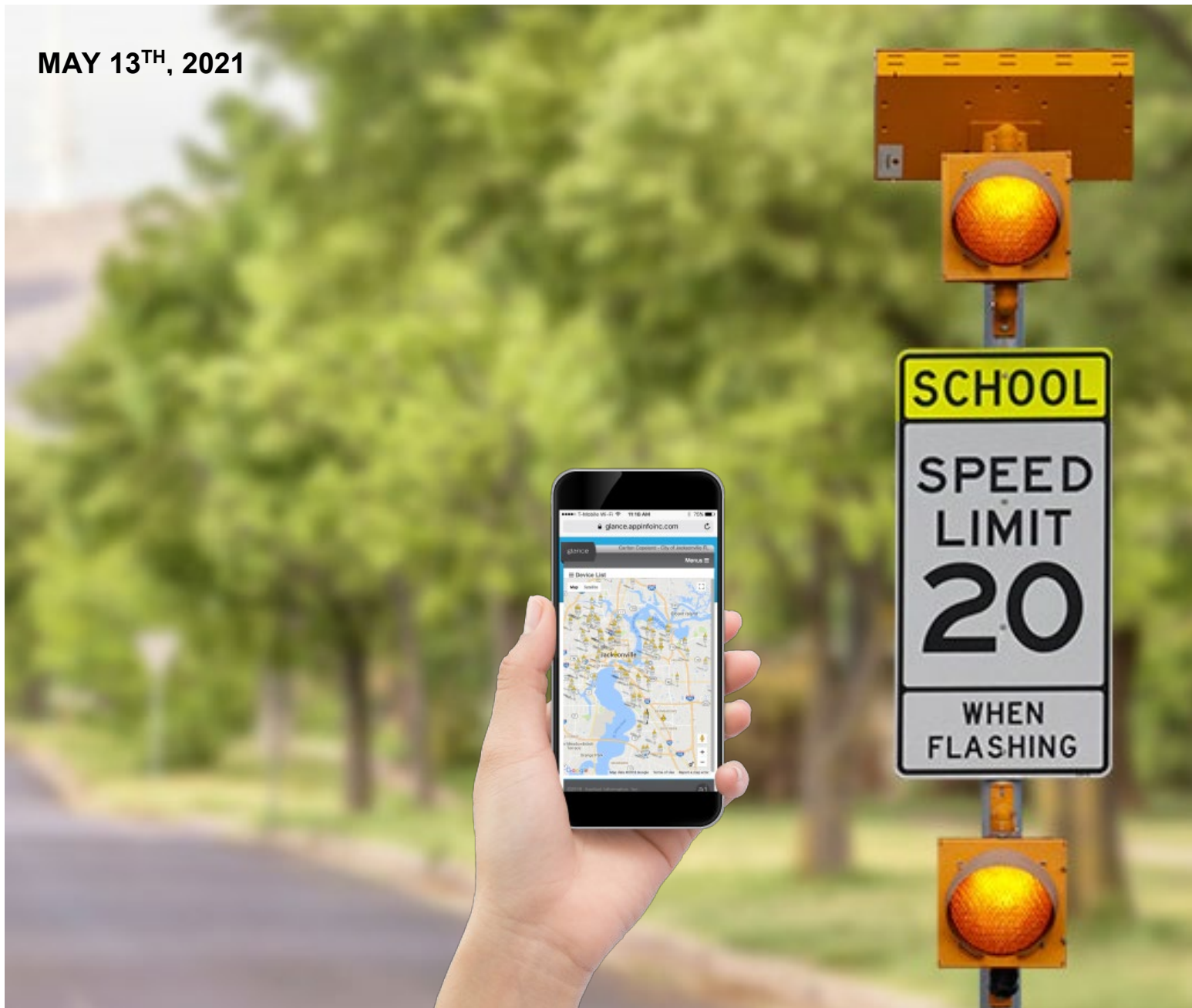


MAY 13TH, 2021



RFP #45-2021

School Zone Flashing Beacon

Submitted by:





May 13th, 2021

Lexington-Fayette Urban County Government
200 East Main Street, 3rd Floor, Room 338
Lexington, Kentucky 40507

RE: BID #45-2021 School Zone Flashing Beacon

Dear Lexington-Fayette Urban County Government

Applied Information Inc. (AI) is pleased to present the Lexington-Fayette County with this response to the County's Request for Proposals, #45-2021 School Zone Flashing Beacon. Applied Information Inc. is a developer and manufacturer of intelligent transportation systems (ITS) solutions designed to improve safety, reliability, and mobility. Founded in 2011, the AI team is armed with years of technical experience and knowledge in the deployment of connected vehicle technology, including school zone flashing beacon systems. With a focus of solving the complex problems that challenge the industry, while developing solutions which focus on project stakeholder's needs, AI has completed projects in (550) cities and deployed approximately (16,000) devices across the USA, with most of these devices being school beacon devices.

Applied Information is recommending their Glance School Beacon Monitoring System. This system is an all-inclusive system where all system hardware is contained in one single, compact device and can be deployed in either AC or DC environments. All required hardware, including the timer switch (with built-in 4G cell modem), antenna, wiring harness, and knockdown detection device will be provided along with an installation guide and video demonstration, allowing for quick and easy installation at each of the (53) beacon locations throughout the County. The proposed system allows for effective 24/7 monitoring of school beacon status and health (including, but not limited to power status, battery backup, and knockdown detection), as well as remote connectivity to the control unit allowing for improved control and configuration of school zone schedules. Devices are covered by a connectivity and support plan (with a no-questions-asked warranty), which provides full connectivity and communication to devices for however long the plan is activated. Over and above this, the Glance School Beacon Monitoring System comes standard with a connected vehicle smartphone application, TravelSafely, which adds an additional layer of safety benefits in school zones.

Equipped with advanced communication, monitoring, reporting and scheduling capabilities, the Glance solution provides a superior system to ensure improved safety and efficiency in school zones. If there are any questions regarding this proposal or if the County would like more information, please contact Peter Ashley of Applied Information Inc. on 678.276.6952, or pashley@appinfoinc.com

Sincerely,

Peter Ashley
Vice President of Business Development
Applied Information Inc.

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LEXINGTON

Lexington-Fayette Urban County Government

Lexington, Kentucky
Horse Capital of the World

Division of Central Purchasing

Date of Issue: April 29, 2021

INVITATION TO BID #45-2021 School Zone Flashing Beacon

Bid Opening Date: May 13, 2021 **Bid Opening Time:** 2:00 PM
Address: 200 East Main Street, 3rd Floor, Room 338, Lexington, Kentucky 40507
Type of Bid: Price Contract

Pre Bid Meeting: N/A **Pre Bid Time:** N/A
Address: N/A

Sealed bids will be received via Ion Wave, until **2:00 PM**, prevailing local time on **5/13/2021**. Bids must be received by the above-mentioned date and time. Bids should be submitted via:

Ion Wave
<https://lexingtonky.ionwave.net>

The Lexington-Fayette Urban County Government assumes no responsibility for bids that are not delivered as indicated above. All bids must be signed. Bids are to include all shipping, handling and associated fees to the point of delivery located at: Lexington, KY

<p style="text-align: center;">Check One:</p> <p><input checked="" type="checkbox"/> Bid Specifications Met <input type="checkbox"/> Exceptions to Bid Specifications. <i>Exceptions shall be itemized and attached to bid proposal submitted.</i></p>	<p>Proposed Delivery: 30 days after acceptance of bid.</p>
<p>Procurement Card Usage—The Lexington-Fayette Urban County Government may be using Procurement Cards to purchase goods and services and also to make payments. Will you accept Procurement Cards? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	

Submitted by: Applied Information Inc,

Firm Name

4411 Suwannee Dam Road, Suite 510

Address

Suwannee, GA 30024

City, State & Zip

Bid must be signed:
(original signature)

 VP Business Development

Signature of Authorized Company Representative – Title

Peter Ashley

Representative's Name (Typed or printed)

678.276.6952

Area Code - Phone – Extension *Fax #*

pashley@appinfoinc.com

E-Mail Address

The Affidavit in this bid must be completed before your firm can be considered for award of this contract.

AFFIDAVIT

Comes the Affiant, Peter Ashley, and after being first duly sworn under penalty of perjury as follows:

1. His/her name is Peter Ashley and he/she is the individual submitting the bid or is the authorized representative of Applied Information, Inc the entity submitting the bid (hereinafter referred to as "Bidder")
2. Bidder will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the bid is submitted, prior to award of the contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.
3. Bidder will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.
4. Bidder has authorized the Division of Central Purchasing to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.
5. Bidder has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky within the past five (5) years and the award of a contract to the Bidder will not violate any provision of the campaign finance laws of the Commonwealth.
6. Bidder has not knowingly violated any provision of Chapter 25 of the Lexington-Fayette Urban County Government Code of Ordinances, known as "Ethics Act."
7. Bidder acknowledges that "knowingly" for purposes of this Affidavit means, with respect to conduct or to circumstances described by a statute or ordinance defining an offense, that a person is aware or should have been aware that his conduct is of that nature or that the circumstance exists.

Further, Affiant sayeth naught. _____

STATE OF Georgia

COUNTY OF Gwinnett

The foregoing instrument was subscribed, sworn to and acknowledged before me by Peter Ashley on this the 12 day of May, 2021.

My Commission expires: 8/2/2022



Lori Perkins
NOTARY PUBLIC, STATE AT LARGE

Please refer to Section II. Bid Conditions, Item "U" prior to completing this form.

I. GREEN PROCUREMENT

A. ENERGY

The Lexington-Fayette Urban County Government is committed to protecting our environment and being fiscally responsible to our citizens.

The Lexington-Fayette Urban County Government mandates the use of Energy Star compliant products if they are available in the marketplace (go to www.Energystar.gov). If these products are available, but not submitted in your pricing, your bid will be rejected as non-compliant.

ENERGY STAR is a government program that offers businesses and consumers energy-efficient solutions, making it easy to save money while protecting the environment for future generations.

Key Benefits

These products use 25 to 50% less energy
Reduced energy costs without compromising quality or performance
Reduced air pollution because fewer fossil fuels are burned
Significant return on investment
Extended product life and decreased maintenance

B. GREEN SEAL CERTIFIED PRODUCTS

The Lexington-Fayette Urban County Government is also committed to using other environmentally friendly products that do not negatively impact our environment. Green Seal is a non-profit organization devoted to environmental standard setting, product certification, and public education.

Go to www.Greenseal.org to find available certified products. These products will have a reduced impact on the environment and on human health. The products to be used must be pre-approved by the LFUCG prior to commencement of any work in any LFUCG facility. If a Green Seal product is not available, the LFUCG must provide a signed waiver to use an alternate product. Please provide information on the Green Seal products being used with your bid response.

C. GREEN COMMUNITY

The Lexington-Fayette Urban County Government (LFUCG) serves as a principal, along with the University of Kentucky and Fayette County Public Schools, in the Bluegrass Partnership for a Green Community. The Purchasing Team component of the Partnership collaborates on economy of scale purchasing that promotes and enhances environmental initiatives. Specifically, when applicable, each principal is interested in obtaining best value products and/or services which promote environment initiatives via solicitations and awards from the other principals.

If your company is the successful bidder on this Invitation For Bid, do you agree to extend the same product/service pricing to the other principals of the Bluegrass Partnership for a Green Community (i.e. University of Kentucky and Fayette County Schools) if requested?

Yes _____ No _____

II. Bid Conditions

- A. No bid may be withdrawn for a period of sixty (60) days after the date and time set for opening.
- B. No bid may be altered after the date and time set for opening. In the case of obvious errors, the Division of Central Purchasing may permit the withdrawal of a bid. The decision as to whether a bid may be withdrawn shall be that of the Division of Central Purchasing.
- C. Acceptance of this proposal shall be enactment of an Ordinance by the Urban County Council.
- D. The bidder agrees that the Urban County Government reserves the right to reject any and all bids for either fiscal or technical reasons, and to award each part of the bid separately, all parts to one vendor or all parts to multiple vendors.
- E. Minor exceptions may not eliminate the bidder. The decision as to whether any exception is minor shall be entirely that of the head of the requisitioning Department or Division and the Director of the Division of Central Purchasing. The Urban County Government may waive technicalities and informalities where such waiver would best serve the interests of the Urban County Government.
- F. Manufacturer's catalogue numbers, trade names, etc., where shown herein are for descriptive purposes and are to guide the bidder in interpreting the standard of quality, design, and performance desired, and shall not be construed to exclude proposals based on furnishing other types of materials and/or services. However, any substitution or departure proposed by the bidder must be clearly noted and described; otherwise, it will be assumed that the bidder intends to supply items specifically mentioned in this Invitation for Bids.
- G. The Urban County Government may require demonstrations of the materials proposed herein prior to acceptance of this proposal.
- H. Bids must be submitted on this form and must be signed by the bidder or his authorized representative. Unsigned bids will not be considered.
- I. Bids must be submitted prior to the date and time indicated for opening. Bids submitted after this time will not be considered.
- J. Bids that are not submitted via Ion Wave will be rejected.
- K. Bidder is requested to show both unit prices and lot prices. In the event of error, the unit price shall prevail.
- L. A certified check or Bid Bond in the amount of XX percent of the bid price must be attached hereto. This check must be made payable to the Lexington-Fayette Urban County Government, and will be returned when the material and/or services specified herein have been delivered in accordance with specifications. In the event of failure to perform within the time period set forth in this bid, it is agreed the certified check may be cashed and the funds retained by the Lexington-Fayette Urban County Government as liquidated damages. Checks of unsuccessful bidders will be returned when the bid has been awarded.
- M. The delivery dates specified by bidder may be a factor in the determination of the successful bidder.
- N. Tabulations of bids received may be mailed to bidders. Bidders requesting tabulations must enclose a stamped, self-addressed envelope with the bid.
- O. The Lexington-Fayette Urban County Government is exempt from Kentucky Sales Tax and Federal Excise Tax on materials purchased from this bid invitation. Materials purchased by the bidder for construction projects are not tax exempt and are the sole responsibility of the bidder.
- P. All material furnished hereunder must be in full compliance with OSHA regulations.
- Q. If more than one bid is offered by one party, or by any person or persons representing a party, all such bids shall be rejected.
- R. Signature on the face of this bid by the Bidder or his authorized representative shall be construed as acceptance of and compliance with all terms and conditions contained herein.

- S. The Entity (regardless of whether construction contractor, non-construction contractor or supplier) agrees to provide equal opportunity in employment for all qualified persons, to prohibit discrimination in employment because of race, color, religion, sex (including pregnancy, sexual orientation or gender identity), national origin, disability, age, genetic information, political affiliation, or veteran status, and to promote equal employment through a positive, continuing program from itself and each of its sub-contracting agents. This program of equal employment opportunity shall apply to every aspect of its employment policies and practices.
- T. The Kentucky Equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) requires that any county, city, town, school district, water district, hospital district, or other political subdivision of the state shall include in directly or indirectly publicly funded contracts for supplies, materials, services, or equipment hereinafter entered into the following provisions:

During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age or national origin;*
- (2) The contractor will state in all solicitations or advertisements for employees placed by or on behalf of the contractors that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age or national origin;*
- (3) The contractor will post notices in conspicuous places, available to employees and applicants for employment, setting forth the provisions of the non-discrimination clauses required by this section; and*
- (4) The contractor will send a notice to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding advising the labor union or workers' representative of the contractor's commitments under the nondiscrimination clauses.*

The Act further provides:

KRS 45.610. Hiring minorities - Information required

- (1) For the length of the contract, each contractor shall hire minorities from other sources within the drawing area, should the union with which he has collective bargaining agreements be unwilling to supply sufficient minorities to satisfy the agreed upon goals and timetable.*
- (2) Each contractor shall, for the length of the contract, furnish such information as required by KRS 45.560 to KRS 45.640 and by such rules, regulations and orders issued pursuant thereto and will permit access to all books and records pertaining to his employment practices and work sites by the contracting agency and the department for purposes of investigation to ascertain compliance with KRS 45.560 to 45.640 and such rules, regulations and orders issued pursuant thereto.*

KRS 45.620. Action against contractor - Hiring of minority contractor or subcontractor

- (1) If any contractor is found by the department to have engaged in an unlawful practice under this chapter during the course of performing under a contract or subcontract covered under KRS 45.560 to 45.640, the department shall so certify to the contracting agency and such certification shall be binding upon the contracting agency unless it is reversed in the course of judicial review.*
- (2) If the contractor is found to have committed an unlawful practice under KRS 45.560 to 45.640, the contracting agency may cancel or terminate the contract, conditioned upon a program for future compliance approved by the contracting agency and the department. The contracting agency may declare such a contractor ineligible to bid on further contracts with that agency until such time as the contractor complies in full with the requirements of KRS 45.560 to 45.640.*
- (3) The equal employment provisions of KRS 45.560 to 45.640 may be met in part by a contractor by subcontracting to a minority contractor or subcontractor. For the provisions of KRS 45.560 to 45.640, a minority contractor or subcontractor shall mean a business that is owned and controlled by one or more persons disadvantaged by racial or ethnic circumstances.*

KRS 45.630 Termination of existing employee not required, when

Any provision of KRS 45.560 to 45.640 notwithstanding, no contractor shall be required to terminate an existing employee upon proof that that employee was employed prior to the date of the contract.

KRS 45.640 Minimum skills

Nothing in KRS 45.560 to 45.640 shall require a contractor to hire anyone who fails to demonstrate the minimum skills required to perform a particular job.

It is recommended that all of the provisions above quoted to be included as special conditions in each contract. In the case of a contract exceeding \$250,000, the contractor is required to furnish evidence that his work-force in Kentucky is representative of the available work-force in the area from which he draws employees, or to supply an Affirmative Action plan which will achieve such representation during the life of the contract.

- U. Any party, firm or individual submitting a proposal pursuant to this invitation must be in compliance with the requirements of the Lexington-Fayette Urban County Government regarding taxes and fees before they can be considered for award of this invitation and must maintain a "current" status with regard to those taxes and fees throughout the term of the contract. The contractor must be in compliance with Chapter 13 from the Code of Ordinances of the Lexington-Fayette Urban County Government. The contractor must be in compliance with Ordinance 35-2000 pursuant to contractor registration with the Division of Building Inspection. If applicable, said business must have a Fayette County business license.

Pursuant to KRS 45A.343 and KRS 45A.345, the contractor shall

- (1) *Reveal any final determination of a violation by the contractor within the previous five year period pursuant to KRS Chapters 136 (corporation and utility taxes), 139 (sales and use taxes), 141 (income taxes), 337 (wages and hours), 338 (occupational safety and health of employees), 341 (unemployment and compensation) and 342 (labor and human rights) that apply to the contractor; and*
- (2) *Be in continuous compliance with the above-mentioned KRS provisions that apply to the contractor for the duration of the contract.*

A contractor's failure to reveal the above or to comply with such provisions for the duration of the contract shall be grounds for cancellation of the contract and disqualification of the contractor from eligibility for future contracts for a period of two (2) years.

- V. Vendors who respond to this invitation have the right to file a notice of contention associated with the bid process or to file a notice of appeal of the recommendation made by the Director of Central Purchasing resulting from this invitation.

Notice of contention with the bid process must be filed within 3 business days of the bid/proposal opening by (1) sending a written notice, including sufficient documentation to support contention, to the Director of the Division of Central Purchasing or (2) submitting a written request for a meeting with the Director of Central Purchasing to explain his/her contention with the bid process. After consulting with the Commissioner of Finance the Chief Administrative Officer and reviewing the documentation and/or hearing the vendor, the Director of Central Purchasing shall promptly respond in writing findings as to the compliance with bid processes. If, based on this review, a bid process irregularity is deemed to have occurred the Director of Central Purchasing will consult with the Commissioner of Finance, the Chief Administrative Officer and the Department of Law as to the appropriate remedy.

Notice of appeal of a bid recommendation must be filed within 3 business days of the bid recommendation by (1) sending a written notice, including sufficient documentation to support appeal, to the Director, Division of Central Purchasing or (2) submitting a written request for a meeting with the Director of Central Purchasing to explain his appeal. After reviewing the documentation and/or hearing the vendor and consulting with the Commissioner of Finance and the Chief Administrative Officer, the Director of Central Purchasing shall in writing, affirm or withdraw the recommendation.

III. Procurement Contract Bid Conditions

- A. The terms of this agreement shall be for 1 year(s) from the date of acceptance of this contract by the Lexington-Fayette Urban County Government. This agreement may be automatically extended for an additional ~~2~~(1) year(s) renewal. This contract may be canceled by either party thirty (30) days after delivery by canceling party of written notice of intent to cancel to the other contracting party.

- B. Price Changes **(Space Checked Applies)**
 - (XXX)1. Prices quoted in response to the Invitation shall be firm prices for the first 90 days of the Procurement Contract. After 90 days, prices may be subject to revision and such changes shall be based on general industry changes. Revision may be either increases or decreases and may be requested by either party. There will be no more than one (1) price adjustment per quarter. Requests for price changes shall be received in writing at least twenty (20) days prior to the effective date and are subject to written acceptance before becoming effective. Proof of the validity of a request for revision shall be responsibility of the requesting party. The Lexington-Fayette Urban County Government shall receive the benefit of any decline that the seller shall offer his other accounts.

 - () 2. No provision for price change is made herein. Prices are to be firm for the term of this contract.

 - () 3. See bid specifications.

- C. If any contract item is not available from the vendor, the Lexington-Fayette Urban County Government, at its option, may permit the item to be back-ordered or may procure the item on the open market.

- D. All invoices must bear reference to the Lexington-Fayette Urban County Government Purchasing document numbers which are being billed.

- E. This contract may be canceled by the Lexington-Fayette Urban County Government if it is determined that the Bidder has failed to perform under the terms of this agreement, such cancellation to be effective upon receipt of written notice of cancellation by the Bidder.

- F. No substitutions for articles specified herein may be made without prior approval of the Division of Central Purchasing.

EQUAL OPPORTUNITY AGREEMENT

Standard Title VI Assurance

The Lexington Fayette-Urban County Government, (hereinafter referred to as the "Recipient") hereby agrees that as a condition to receiving any Federal financial assistance from the U.S. Department of Transportation, it will comply with Title VI of the Civil Rights Act of 1964, 78Stat.252, 42 U.S.C. 2000d-4 (hereinafter referred to as the "Act"), and all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, (49 CFR, Part 21) Nondiscrimination in Federally Assisted Program of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964 (hereinafter referred to as the "Regulations") and other pertinent directives, no person in the United States shall, on the grounds of race, color, national origin, sex, age (over 40), religion, sexual orientation, gender identity, veteran status, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Recipient receives Federal financial assistance from the U.S. Department of Transportation, including the Federal Highway Administration, and hereby gives assurance that will promptly take any necessary measures to effectuate this agreement. This assurance is required by subsection 21.7(a) (1) of the Regulations.

The Law

- Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.
- Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and sub-contractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.
- Section 503 of the Rehabilitation Act of 1973 states: *The Contractor will not discriminate against any employee or applicant for employment because of physical or mental disability.*
- Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal contracts.
- Section 206(A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states: *The Secretary of Labor may investigate the employment practices of any Government contractor or sub-contractor to determine whether or not the contractual provisions specified in Section 202 of this order have been violated.*

The Lexington-Fayette Urban County Government practices Equal Opportunity in recruiting, hiring and promoting. It is the Government's intent to affirmatively provide employment opportunities for those individuals who have previously not been allowed to enter into the mainstream of society. Because of its importance to the local Government, this policy carries the full endorsement of the Mayor, Commissioners, Directors and all supervisory personnel. In following this commitment to Equal Employment Opportunity and because the Government is the benefactor of the Federal funds, it is both against the Urban County Government policy and illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause a contract to be canceled and the contractors may be declared ineligible for future consideration.

Please sign this statement in the appropriate space acknowledging that you have read and understand the provisions contained herein. Return this document as part of your application packet.

Bidders

I/We agree to comply with the Civil Rights Laws listed above that govern employment rights of minorities, women, veteran status, disability and age.



Signature

Applied Information Inc.

Name of Business


GENERAL PROVISIONS OF BID CONTRACT

By signing the below, bidder acknowledges that it understands and agrees with the following provisions related to its bid response and the provision of any goods or services to LFUCG upon selection by LFUCG pursuant to the bid request:

1. Bidder shall comply with all Federal, State & Local regulations concerning this type of service or good. All applicable state laws, ordinances and resolutions (including but not limited to Section 2-33 (Discrimination due to sexual orientation or gender identity) and Chapter 13 (Licenses and Regulations) of the Lexington-Fayette Urban County Government Code of Ordinances, and Resolution No. 484-17 (Minority, Women, and Veteran-Owned Businesses)) and the regulations of all authorities having jurisdiction over the project shall apply to the contract, and shall be deemed to be incorporated herein by reference.
2. Failure to submit ALL forms and information required by LFUCG may be grounds for disqualification.
3. Addenda: All addenda and IonWave Q&A, if any, must be considered by the bidder in making its response, and such addenda shall be made a part of the requirements of the bid contract. Before submitting a bid response, it is incumbent upon bidder to be informed as to whether any addenda have been issued, and the failure of the bidder to cover any such addenda may result in disqualification of that response.
4. Bid Reservations: LFUCG reserves the right to reject any or all bid responses, to award in whole or part, and to waive minor immaterial defects in proposals. LFUCG may consider any alternative proposal that meets its basic needs.
5. Liability: LFUCG is not responsible for any cost incurred by bidder in the preparation of its response.
6. Changes/Alterations: Bidder may change or withdraw a proposal at any time prior to the opening; however, no oral modifications will be allowed. Only letters, or other formal written requests for modifications or corrections of a previously submitted proposal which is addressed in the same manner as the bid response, and received by LFUCG prior to the scheduled closing time for receipt of bids, will be accepted. The bid response when opened, will then be corrected in accordance with such written request(s), provided that the written request is contained in a sealed envelope which is plainly marked "modifications of bid response".
7. Clarification of Submittal: LFUCG reserves the right to obtain clarification of any point in a bid or to obtain additional information from any bidder.
8. Bribery Clause: By his/her signature on its response, bidder certifies that no employee of his/hers, any affiliate or subcontractor, has bribed or attempted to bribe an officer or employee of the LFUCG.
9. Additional Information: While not necessary, the bidder may include any product brochures, software documentation, sample reports, or other documentation that may assist LFUCG in better understanding and evaluating the bid response. Additional documentation shall not serve as a substitute for other documentation which is required by the LFUCG to be submitted with the bid response.
10. Ambiguity, Conflict or other Errors: If a bidder discovers any ambiguity, conflict, discrepancy, omission or other error in the bid request of LFUCG, it shall immediately notify LFUCG of such error in writing and request modification or clarification of the document if allowable by the LFUCG.
11. Agreement to Bid Terms: In submitting its bid response, the bidder agrees that it has carefully examined the specifications and all provisions relating to LFUCG's bid request, including but not limited to the bid contract. By submission of its bid response, bidder states that it understands the meaning, intent and requirements of LFUCG's bid request and agrees to the same. The successful bidder shall warrant that it is familiar with and understands all provisions herein and shall warrant that it can comply with them. No additional compensation to bidder shall be authorized for services, expenses, or goods reasonably covered under these provisions that the bidder omits from its bid response.
12. Cancellation: LFUCG may unilaterally terminate the bid contract with the selected bidder(s) at any time, with or without cause, by providing at least thirty (30) days advance written notice unless a different advance written notice period is negotiated prior to contract approval. Payment for services or goods received prior to

termination shall be made by the LFUCG provided these goods or services were provided in a manner acceptable to the LFUCG. Payment for those goods and services shall not be unreasonably withheld.

13. Assignment of Contract: The selected bidder(s) shall not assign or subcontract any portion of the bid contract with LFUCG without the express written consent of LFUCG. Any purported assignment or subcontract in violation hereof shall be void. It is expressly acknowledged that LFUCG shall never be required or obligated to consent to any request for assignment or subcontract; and further that such refusal to consent can be for any or no reason, fully within the sole discretion of LFUCG.
14. No Waiver: No failure or delay by LFUCG in exercising any right, remedy, power or privilege hereunder, nor any single or partial exercise thereof, nor the exercise of any other right, remedy, power or privilege shall operate as a waiver hereof or thereof. No failure or delay by LFUCG in exercising any right, remedy, power or privilege under or in respect of this bid proposal or bid contract shall affect the rights, remedies, powers or privileges of LFUCG hereunder or shall operate as a waiver thereof.
15. Authority to do Business: Each bidder must be authorized to do business under the laws of the Commonwealth of Kentucky and must be in good standing and have full legal capacity to provide the goods or services specified in the bid proposal. Each bidder must have all necessary right and lawful authority to submit the bid response and enter into the bid contract for the full term hereof including any necessary corporate or other action authorizing the bidder to submit the bid response and enter into this bid contract. If requested, the bidder will provide LFUCG with a copy of a corporate resolution authorizing this action and/or a letter from an attorney confirming that the proposer is authorized to do business in the Commonwealth of Kentucky. All bid responses must be signed by a duly authorized officer, agent or employee of the bidder.
16. Governing Law: This bid request and bid contract shall be governed by and construed in accordance with the laws of the Commonwealth of Kentucky. In the event of any proceedings regarding this matter, the bidder agrees that the venue shall be the Fayette County Circuit Court or the U.S. District Court for the Eastern District of Kentucky, Lexington Division and that the bidder expressly consents to personal jurisdiction and venue in such Court for the limited and sole purpose of proceedings relating to these matters or any rights or obligations arising thereunder.
17. Ability to Meet Obligations: Bidder affirmatively states that there are no actions, suits or proceedings of any kind pending against bidder or, to the knowledge of the bidder, threatened against the bidder before or by any court, governmental body or agency or other tribunal or authority which would, if adversely determined, have a materially adverse effect on the authority or ability of bidder to perform its obligations under this bid response or bid contract, or which question the legality, validity or enforceability hereof or thereof.
18. Price Discrepancy: When applicable, in case of price discrepancy, unit bid price written in words will prevail followed by unit price written in numbers then total amount bid per line item.
19. Bidder understands and agrees that its employees, agents, or subcontractors are not employees of LFUCG for any purpose whatsoever. Bidder is an independent contractor at all times related to the bid response or bid contract.
20. Contractor [or Vendor or Vendor's Employees] will not appropriate or make use of the Lexington-Fayette Urban County Government (LFUCG) name or any of its trade or service marks or property (including but not limited to any logo or seal), in any promotion, endorsement, advertisement, testimonial or similar use without the prior written consent of the government. If such consent is granted LFUCG reserves the unilateral right, in its sole discretion, to immediately terminate and revoke such use for any reason whatsoever. Contractor agrees that it shall cease and desist from any unauthorized use immediately upon being notified by LFUCG.
21. If any term or provision of this bid contract shall be found to be illegal or unenforceable, the remainder of the contract shall remain in full force and such term or provision shall be deemed stricken.



Signature

May 11th, 2021

Date

WORKFORCE ANALYSIS FORM

Name of Organization: Applied Information, Inc.

Categories	Total	White (Not Hispanic or Latino)		Hispanic or Latino		Black or African-American (Not Hispanic or Latino)		Native Hawaiian and Other Pacific Islander (Not Hispanic or Latino)		Asian (Not Hispanic or Latino)		American Indian or Alaskan Native (not Hispanic or Latino)		Two or more races (Not Hispanic or Latino)		Total	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Administrators	4	1	3														
Professionals	13	9	4														
Superintendents																	
Supervisors	1	1															
Foremen																	
Technicians	7	3		1		1	2										
Protective Service																	
Para-Professionals																	
Office/Clerical																	
Skilled Craft	12	9	2					1		1	1						
Service/Maintenanc																	
Total:	37																

Prepared by: Rebekah Vargas, Director of Administration Date: 5 / 11 / 21
 (Name and Title)

Revised 2015-Dec-15

**DIRECTOR, DIVISION OF CENTRAL PURCHASING
LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
200 EAST MAIN STREET
LEXINGTON, KENTUCKY 40507**

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE
EQUAL EMPLOYMENT OPPORTUNITIES AND DBE CONTRACT PARTICIPATION**

The Lexington-Fayette Urban County Government has set a goal that not less than ten percent (10%) of the total value of this contract be subcontracted to MBE/WBE's, and set a goal that not less than three percent (3%) of the total value of this contract be subcontracted to Veteran-Owned Small Businesses. The goal for the utilization of Certified MBE/WBE's and Veteran-Owned Small Businesses as subcontractors are recommended goals. Contractors who fail to meet such goals will be expected to provide written explanations to the Director of the Division of Central Purchasing of efforts they have made to accomplish the recommended goals and the extent to which they are successful in accomplishing the recommended goals will be a consideration in the procurement process.

For assistance in locating MBE/WBE Subcontractors contact Sherita Miller at 859/258-3320 or by writing the address listed below:

Sherita Miller, Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street – Room 338
Lexington, Kentucky 40507
smiller@lexingtonky.gov

Lexington-Fayette Urban County Government
MWDBE PARTICIPATION GOALS

A. GENERAL

- 1) The LFUCG request all potential contractors to make a concerted effort to include Minority-Owned (MBE), Woman-Owned (WBE), Disadvantaged (DBE) Business Enterprises and Veteran-Owned Small Businesses (VOSB) as subcontractors or suppliers in their bids.
- 2) Toward that end, the LFUCG has established 10% of total procurement costs as a Goal for participation of Minority-Owned, Woman-Owned and Disadvantaged Businesses on this contract.
- 3) **It is therefore a request of each Bidder to include in its bid, the same goal (10%) for MWDBE participation and other requirements as outlined in this section.**
- 4) The LFUCG has also established a 3% of total procurement costs as a Goal for participation for of Veteran-Owned Businesses.
- 5) **It is therefore a request of each Bidder to include in its bid, the same goal (3%) for Veteran-Owned participation and other requirements as outlined in this section.**

B. PROCEDURES

- 1) The successful bidder will be required to report to the LFUCG, the dollar amounts of all payments submitted to Minority-Owned, Woman-Owned or Veteran-Owned subcontractors and suppliers for work done or materials purchased for this contract. (See Subcontractor Monthly Payment Report)
- 2) Replacement of a Minority-Owned, Woman-Owned or Veteran-Owned subcontractor or supplier listed in the original submittal must be requested in writing and must be accompanied by documentation of Good Faith Efforts to replace the subcontractor / supplier with another MWDBE Firm; this is subject to approval by the LFUCG. (See LFUCG MWDBE Substitution Form)
- 3) For assistance in identifying qualified, certified businesses to solicit for potential contracting opportunities, bidders may contact:
 - a) The Lexington-Fayette Urban County Government, Division of Central Purchasing (859-258-3320)
- 4) The LFUCG will make every effort to notify interested MWDBE and Veteran-Owned subcontractors and suppliers of each Bid Package, including information on the scope of work, the pre-bid meeting time and location, the bid date, and all other pertinent information regarding the project.

C. DEFINITIONS

- 1) A Minority-Owned Business Enterprise (MBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by persons of African American, Hispanic, Asian, Pacific Islander, American Indian or Alaskan Native Heritage.
- 2) A Woman-Owned Business Enterprise (WBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by one or more women.

- 3) A Disadvantaged Business (DBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by a person(s) that are economically and socially disadvantaged.
- 4) A Veteran-Owned Small Business (VOSB) is defined as a business which is certified as being at least 51% owned, managed and controlled by a veteran and/or a service disabled veteran.
- 5) Good Faith Efforts are efforts that, given all relevant circumstances, a bidder or proposer actively and aggressively seeking to meet the goals, can reasonably be expected to make. In evaluating good faith efforts made toward achieving the goals, whether the bidder or proposer has performed the efforts outlined in the Obligations of Bidder for Good Faith Efforts outlined in this document will be considered, along with any other relevant factors.

D. OBLIGATION OF BIDDER FOR GOOD FAITH EFFORTS

- 1) **The bidder shall make a Good Faith Effort to achieve the Participation Goal for MWDBE and Veteran-Owned subcontractors/suppliers. The failure to meet the goal shall not necessarily be cause for disqualification of the bidder; however, bidders not meeting the goal are required to furnish with their bids written documentation of their Good Faith Efforts to do so.**
- 2) Award of Contract shall be conditioned upon satisfaction of the requirements set forth herein.
- 3) The Form of Proposal includes a section entitled "MWDBE Participation Form". The applicable information must be completed and submitted as outlined below.
- 4) **Failure to submit this information as requested may be cause for rejection of bid or delay in contract award.**

E. DOCUMENTATION REQUIRED FOR GOOD FAITH EFFORTS

- 1) Bidders reaching the Goal are required to submit only the MWDBE Participation Form." The form must be fully completed including names and telephone number of participating MWDBE firm(s); type of work to be performed; estimated value of the contract and value expressed as a percentage of the total Lump Sum Bid Price. The form must be signed and dated, and is to be submitted with the bid.
- 2) Bidders not reaching the Goal must submit the "MWDBE Participation Form", the "Quote Summary Form" and a written statement documenting their Good Faith Effort to do so. If bid includes no MWDBE and/or Veteran participation, bidder shall enter "None" on the subcontractor / supplier form). In addition, the bidder must submit written proof of their Good Faith Efforts to meet the Participation Goal:
 - a. Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow MWDBE firms and Veteran-Owned businesses to participate.
 - b. Included documentation of advertising in the above publications with the bidders good faith efforts package
 - c. Attended LFUCG Central Purchasing Economic Inclusion Outreach event

- d. Attended pre-bid meetings that were scheduled by LFUCG to inform MWDBEs and/or Veteran-Owned businesses of subcontracting opportunities
- e. Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and MWDBE firms and Veteran-Owned businesses.
- f. Requested a list of MWDBE and/or Veteran subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).
- g. Contacted organizations that work with MWDBE companies for assistance in finding certified MWDBE firms and Veteran-Owned businesses to work on this project. Those contacted and their responses should be a part of the bidder's good faith efforts documentation.
- h. Sent written notices, by certified mail, email or facsimile, to qualified, certified MWDBEs and/or Veteran-Owned businesses soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.
- i. Followed up initial solicitations by contacting MWDBEs and Veteran-Owned Businesses to determine their level of interest.
- j. Provided the interested MWDBE firm and/or Veteran-Owned business with adequate and timely information about the plans, specifications, and requirements of the contract.
- k. Selected portions of the work to be performed by MWDBE firms and/or Veteran-Owned businesses in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate MWDBE and Veteran participation, even when the prime contractor may otherwise perform these work items with its own workforce
- l. Negotiated in good faith with interested MWDBE firms and Veteran-Owned businesses not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached.
- m. Included documentation of quotations received from interested MWDBE firms and Veteran-Owned businesses which were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.
- n. Bidder has to submit sound reasons why the quotations were considered unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a MWDBE and/or Veteran-Owned business's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy MWDBE and Veteran goals.
- o. Made an effort to offer assistance to or refer interested MWDBE firms and Veteran-Owned businesses to obtain the necessary equipment, supplies, materials, insurance and/or bonding

to satisfy the work requirements of the bid proposal

p. Made efforts to expand the search for MWBE firms and Veteran-Owned businesses beyond the usual geographic boundaries.

q. Other--any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include MWDBE and Veteran participation.

Note: Failure to submit any of the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement which is subject to review by the MBE Liaison. Documentation of Good Faith Efforts must be submitted with the Bid, if the participation Goal is not met.



MINORITY BUSINESS ENTERPRISE PROGRAM

Sherita Miller, MPA
Minority Business Enterprise Liaison
Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street
Lexington, KY 40507
smiller@lexingtonky.gov
859-258-3323

OUR MISSION: The mission of the Minority Business Enterprise Program is to facilitate the full participation of minority and women owned businesses in the procurement process and to promote economic inclusion as a business imperative essential to the long term economic viability of Lexington-Fayette Urban County Government.

To that end the city council adopted and implemented Resolution 484-2017 – A Certified Minority, Women and Disadvantaged Business Enterprise ten percent (10%) minimum goal and a three (3%) minimum goal for Certified Veteran-Owned Small Businesses and Certified Service Disabled Veteran – Owned Businesses for government contracts.

The resolution states the following definitions shall be used for the purposes of reaching these goals (a full copy is available in Central Purchasing):

Certified Disadvantaged Business Enterprise (DBE) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a person(s) who is socially and economically disadvantaged as define by 49 CFR subpart 26.

Certified Minority Business Enterprise (MBE) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by an ethnic minority (i.e. African American, Asian American/Pacific Islander, Hispanic Islander, Native American/Native Alaskan Indian) as defined in federal law or regulation as it may be amended from time-to-time.

Certified Women Business Enterprise (WBE) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a woman.

Certified Veteran-Owned Small Business (VOSB) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a veteran who served on active duty with the U.S. Army, Air Force, Navy, Marines or Coast Guard.

Certified Service Disabled Veteran Owned Small Business (SDVOSB) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a disabled veteran who served on active duty with the U.S. Army, Air Force, Navy, Marines or Coast Guard.

The term “Certified” shall mean the business is appropriately certified, licensed, verified, or validated by an organization or entity recognized by the Division of Purchasing as having the appropriate credentials to make a determination as to the status of the business.

To comply with Resolution 484-2017, prime contractors and minority, women and veteran owned businesses must enroll in the new Diverse Business Management Compliance system, <https://lexingtonky.diversitycompliance.com/>

We have compiled the list below to help you locate certified MBE, WBE and DBE certified businesses. Below is a listing of contacts for LFUCG Certified MWDBEs and Veteran-Owned Small Businesses in <https://lexingtonky.ionwave.net>

Business	Contact	Email Address	Phone
LFUCG	Sherita Miller	smiller@lexingtonky.gov	859-258-3323
Commerce Lexington – Minority Business Development	Tyrone Tyra	ttyra@commercelexington.com	859-226-1625
Tri-State Minority Supplier Diversity Council	Susan Marston	smarston@tsmsdc.com	502-365-9762
Small Business Development Council	Shawn Rogers UK SBDC	shawn.rogers@uky.edu	859-257-7666
Community Ventures Corporation	Phyllis Alcorn	palcorn@cvky.org	859-231-0054
KY Transportation Cabinet (KYTC)	Melvin Bynes	Melvin.bynes2@ky.gov	502-564-3601
KYTC Pre-Qualification	Shella Eagle	Shella.Eagle@ky.gov	502-782-4815
Ohio River Valley Women’s Business Council (WBENC)	Sheila Mixon	smixon@orvwbc.org	513-487-6537
Kentucky MWBE Certification Program	Yvette Smith, Kentucky Finance Cabinet	Yvette.Smith@ky.gov	502-564-8099
National Women Business Owner’s Council (NWBOC)	Janet Harris-Lange	janet@nwbo.org	800-675-5066
Small Business Administration	Robert Coffey	robertcoffey@sba.gov	502-582-5971
LaVoz de Kentucky	Andres Cruz	lavozydeky@yahoo.com	859-621-2106
The Key News Journal	Patrice Muhammad	production@keynewsjournal.com	859-685-8488



LFUCG MWDBE PARTICIPATION FORM

Bid/RFP/Quote Reference # 45-2021

The MWDBE and/or veteran subcontractors listed have agreed to participate on this Bid/RFP/Quote. If any substitution is made or the total value of the work is changed prior to or after the job is in progress, it is understood that those substitutions must be submitted to Central Purchasing for approval immediately. **Failure to submit a completed form may cause rejection of the bid.**

MWDBE Company, Name, Address, Phone, Email	MBE WBE or DBE	Work to be Performed	Total Dollar Value of the Work	% Value of Total Contract
1. None (see attached letter)				
2.				
3.				
4.				

The undersigned company representative submits the above list of MWDBE firms to be used in accomplishing the work contained in this Bid/RFP/Quote. Any misrepresentation may result in the termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

Applied Information Inc.

Company

May 11th, 2021

Date

Peter Ashley

Company Representative

VP Business Development

Title



LFUCG MWDBE PARTICIPATION FORM

Bid/RFP/Quote Reference # 45-2021

The MWDBE and/or veteran subcontractors listed have agreed to participate on this Bid/RFP/Quote. If any substitution is made or the total value of the work is changed prior to or after the job is in progress, it is understood that those substitutions must be submitted to Central Purchasing for approval immediately. **Failure to submit a completed form may cause rejection of the bid.**

MWDBE Company, Name, Address, Phone, Email	MBE WBE or DBE	Work to be Performed	Total Dollar Value of the Work	% Value of Total Contract
1. None (see attached letter)				
2.				
3.				
4.				

The undersigned company representative submits the above list of MWDBE firms to be used in accomplishing the work contained in this Bid/RFP/Quote. Any misrepresentation may result in the termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

Applied Information Inc.

Company

May 11th, 2021

Date

Peter Ashley

Company Representative

VP Business Development

Title



LEXINGTON

LFUCG MWDBE SUBSTITUTION FORM

Bid/RFP/Quote Reference # 45-2021

The substituted MWDBE and/or veteran subcontractors listed below have agreed to participate on this Bid/RFP/Quote. These substitutions were made prior to or after the job was in progress. These substitutions were made for reasons stated below and are now being submitted to Central Purchasing for approval. By the authorized signature of a representative of our company, we understand that this information will be entered into our file for this project. **Failure to submit this form may cause rejection of the bid.**

SUBSTITUTED MWDBE Company Name, Address, Phone, Email	MWDBE Formally Contracted/ Name, Address, Phone, Email	Work to Be Performed	Reason for the Substitution	Total Dollar Value of the Work	% Value of Total Contract
1. None (see attached letter)					
2.					
3.					
4.					

The undersigned acknowledges that any misrepresentation may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

Applied Information Inc.
Company

May 11th, 2021
Date

Peter Ashley
Company Representative

VP Business Development
Title



LEXINGTON

MWDBE QUOTE SUMMARY FORM

Bid/RFP/Quote Reference # 45-2021

The undersigned acknowledges that the minority and/or veteran subcontractors listed on this form did submit a quote to participate on this project. Failure to submit this form may cause rejection of the bid.

Company Name Applied Information Inc.	Contact Person Peter Ashley
Address/Phone/Email 4411 Suwannee Dam Road, Suwannee, GA 30024 678.276.6952 pashley@appinfoinc.com	Bid Package / Bid Date #45-2021 Due May 13th, 2021

MWDBE Company Address	Contact Person	Contact Information (work phone, Email, cell)	Date Contacted	Services to be performed	Method of Communication (email, phone meeting, ad, event etc)	Total dollars \$\$ Do Not Leave Blank (Attach Documentation)	MBE * AA HA AS NA Female	Veteran
None (see attached letter)								

(MBE designation / AA=African American / HA= Hispanic American/AS = Asian American/Pacific Islander/ NA= Native American)

The undersigned acknowledges that all information is accurate. Any misrepresentation may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

Applied Information Inc.

Company

May 11th, 2021

Date

Peter Ashley

Company Representative

VP Business Development

Title



LEXINGTON

LFUCG SUBCONTRACTOR MONTHLY PAYMENT REPORT

The LFUCG has a 10% goal plan adopted by city council to increase the participation of minority and women owned businesses in the procurement process. The LFUCG also has a 3% goal plan adopted by cited council to increase the participation of veteran owned businesses in the procurement process. In order to measure that goal LFUCG will track spending with MWDBE and Veteran contractors on a monthly basis. By the signature below of an authorized company representative, you certify that the information is correct, and that each of the representations set forth below is true. Any misrepresentation may result in termination of the contract and/or prosecution under applicable Federal and State laws concerning false statements and false claims. Please submit this form monthly to the Division of Central Purchasing/ 200 East Main Street / Room 338 / Lexington, KY 40507.

Bid/RFP/Quote # 45-2021

Total Contract Amount Awarded to Prime Contractor for this Project N/A

Project Name/ Contract # <u>45-2021</u>	Work Period/ From: <u>N/A</u>	To: <u>N/A</u>
Company Name: <u>N/A</u>	Address: <u>N/A</u>	
Federal Tax ID: <u>N/A</u>	Contact Person: <u>N/A</u>	

Subcontractor Vendor ID (name, address, phone, email)	Description of Work	Total Subcontract Amount	% of Total Contract Awarded to Prime for this Project	Total Amount Paid for this Period	Purchase Order number for subcontractor work (please attach PO)	Scheduled Project Start Date	Scheduled Project End Date
None (see attached letter)							

By the signature below of an authorized company representative, you certify that the information is correct, and that each of the representations set forth below is true. Any misrepresentations may result in the termination of the contract and/or prosecution under applicable Federal and State laws concerning false statements and false claims.

Applied Information Inc.

Company

May 11th, 2021

Date

Peter Ashley

Company Representative

VP Business Development

Title

LFUCG STATEMENT OF GOOD FAITH EFFORTS

Bid/RFP/Quote # 45-2021

By the signature below of an authorized company representative, we certify that we have utilized the following Good Faith Efforts to obtain the maximum participation by MWDBE and Veteran-Owned business enterprises on the project and can supply the appropriate documentation.

_____ Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow MWDBE firms and Veteran-Owned businesses to participate.

_____ Included documentation of advertising in the above publications with the bidders good faith efforts package

_____ Attended LFUCG Central Purchasing Economic Inclusion Outreach event

_____ Attended pre-bid meetings that were scheduled by LFUCG to inform MWDBEs and/or Veteran-Owned Businesses of subcontracting opportunities

_____ Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and MWDBE firms and Veteran-Owned businesses

_____ Requested a list of MWDBE and/or Veteran subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).

_____ Contacted organizations that work with MWDBE companies for assistance in finding certified MWDBE firms and Veteran-Owned businesses to work on this project. Those contacted and their responses should be a part of the bidder's good faith efforts documentation.

_____ Sent written notices, by certified mail, email or facsimile, to qualified, certified MWDBEs soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.

_____ Followed up initial solicitations by contacting MWDBEs and Veteran-Owned businesses to determine their level of interest.

_____ Provided the interested MWDBE firm and/or Veteran-Owned business with adequate and timely information about the plans, specifications, and requirements of the contract.

_____ Selected portions of the work to be performed by MWDBE firms and/or Veteran-Owned businesses in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate MWDBE and Veteran participation, even when the prime contractor may otherwise perform these work items with its own workforce

_____ Negotiated in good faith with interested MWDBE firms and Veteran-Owned businesses not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached.

_____ Included documentation of quotations received from interested MWDBE firms and Veteran-Owned businesses which were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.

_____ Bidder has to submit sound reasons why the quotations were considered unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a MWDBE and/or Veteran-Owned business's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy MWDBE and Veteran goals.

_____ Made an effort to offer assistance to or refer interested MWDBE firms and Veteran-Owned businesses to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal

_____ Made efforts to expand the search for MWBE firms and Veteran-Owned businesses beyond the usual geographic boundaries.

_____ Other--any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include MWDBE **and Veteran participation.**

NOTE: Failure to submit any of the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement which is subject to approval by the MBE Liaison. Documentation of Good Faith Efforts must be submitted with the Bid, if the participation Goal is not met.

**Please see attached letter on MWDBE Project Involvement

The undersigned acknowledges that all information is accurate. Any misrepresentations may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

Applied Information Inc.

Company

May 11th, 2021

Date

Peter Ashley

Company Representative

VP Business Development

Title



May 13th, 2021

Lexington-Fayette Urban County Government
200 East Main Street, 3rd Floor, Room 338
Lexington, Kentucky 40507

RE: BID #45-2021 School Zone Flashing Beacon – MWDBE Involvement

Dear Lexington-Fayette Urban County Government

Applied Information Inc. has read and understands the need for MWDBE participation in the #45-2021 School Zone Flashing Beacon Project.

As a result of quick proposal turnaround, Applied Information Inc. has not yet had a chance to advertise, attend networking opportunities, nor negotiate involvements with MWDBE Companies. That being said, Applied Information still wished to submit a proposal for this project, as it is believed that the Glance School Beacon Monitoring System will provide the County Government with an advanced School Zone Flashing Beacon System, which will offer a number of additional value add benefits, to provide reliability and improved safety & efficiency in County school zones.

Applied Information Inc. is committed to providing Good Faith Efforts, should this be required for this project, and will pursue these efforts upon project award.

Should further discussion be required, please contact Peter Ashley of Applied Information on pashley@appinfoinc.com, or 678.276.6952.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Ashley', with a stylized flourish at the end.

Peter Ashley
VP Business Development
Applied Information Inc.

INTRODUCTION:

Many schools currently utilize school beacon flashers to reduce the speed limit in school zones during a defined period before the start of, and after, the end of each school day, but a problem typically arises with school zone beacons where cities/counties often experience a number of problems when operating and maintaining these systems. Such problems include the manual reprogramming of school schedules based on time change requests and pre-established calendar periods by school districts and individual schools, as well as external factors such as daylight savings and leap years. Oftentimes, the school schedule programming is completed by technicians who are required to visit each of the school beacons throughout the city multiple times a year and manually reprogram each beacon. An additional problem that arises is the difficulty of verifying that each and every school beacon flasher within the city is working on the correct days and at the correct times. Currently, the only way to check this is to physically go to the school beacon to visually inspect whether the school beacon flasher is working and flashing according to the appropriate school year schedule and specific school start/finish times. Alternatively, technicians are required to incorporate a number of hours towards maintenance activities, which in most cases, is in reactive mode in response to service requests from the public. Due to these factors, beacon flashers often end up turning on at the incorrect times; such as during school holidays when schools are out, if there is a malfunction, or a last-minute school schedule change. Regarding these faults, it can take a significant amount of time before the problem is reported to the traffic department or diagnosed by City personnel.

In an attempt to solve the problems presented above, Applied Information is recommending the installation of the Glance School Beacon Monitoring System, a solution that provides an easy-to-integrate means of monitoring and controlling of school beacon flashers, ensuring increased reliability as well as improved safety and speed control in school zones. This system provides a robust, versatile tool which allows for remote monitoring and management of school beacon flashers and their schedules. The system uses Applied Information's Glance Smart City Supervisory System (Glance) to connect with the in-field unit, the AI-500-070, which is integrated into the current school zone beacon device. This therefore presents an alternative for control/back panel and/or time clock/switch upgrades, and provides a reliable, cost effective communications method. This proposed solution directly addresses the problems associated with the manual re-programming of school beacons. Traffic managers are able to remotely schedule beacons from Glance, a central, browser-based platform. Schedule changes can be applied to individual beacons, groups of beacons, or the entire system of beacons, making it easy to turn beacons on, off or to schedule without having to physically go into the field.

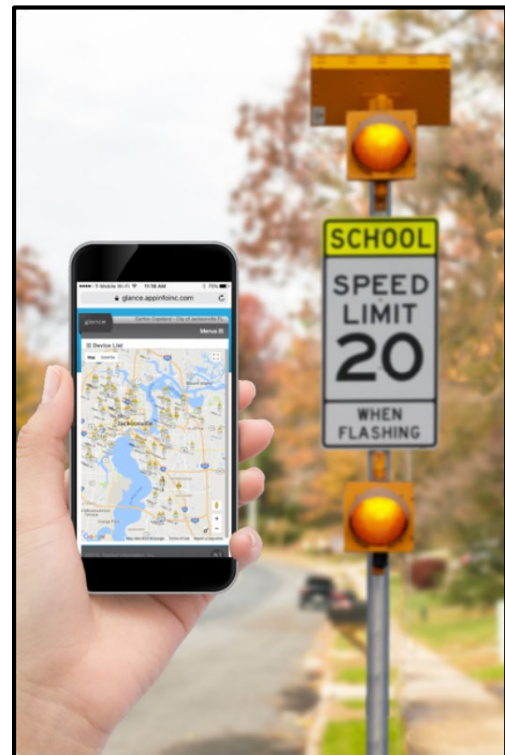


Figure 1: Glance School Beacon Monitoring System

RFP #45-2021
SCHOOL ZONE FLASHING BEACON

The AI-500-070, an all-inclusive school beacon monitoring and scheduling device, will take the place of the existing school beacon timer switches. School beacon flashers can then be monitored and controlled via Applied Information's 'Integrated School Beacon Timer Switch and Cellular Modem' (school beacon unit). Units can be powered by either AC battery or DC solar power, and each school beacon unit is equipped with a built-in cellular modem and GPS for self-locating and GPS Time-Sync. The cellular modem allows for 4G LTE cellular communication to the Glance platform, where each unit installed is connected via Glance, which creates the connected school beacon system and provides a remote school zone monitoring solution.



Figure 2: AI-500-070 School Beacon Timer Switch

Glance, the cloud-based software system which comes standard with the installation of the school zone beacon system, allows for the easy viewing, monitoring, and maintaining of school beacon flashers, and remote scheduling of devices from anywhere, on any internet-connected device via a web-browser. Glance utilizes a map-based graphical user interface (GUI), which allows users to locate and manage all of their school beacons. The system is based off of Google Maps and supports multiple features of Google Maps, such as map view or street view, on the platform. Glance allows for cities to view their connected school beacons, and access details about each unit, such as school beacon AC power, battery system voltage, solar charge voltage, and even possible lamp failures. As soon as a problem with the school beacon unit is detected, an alert is sent out via email or text, alerting selected personnel with the exact fault experienced.

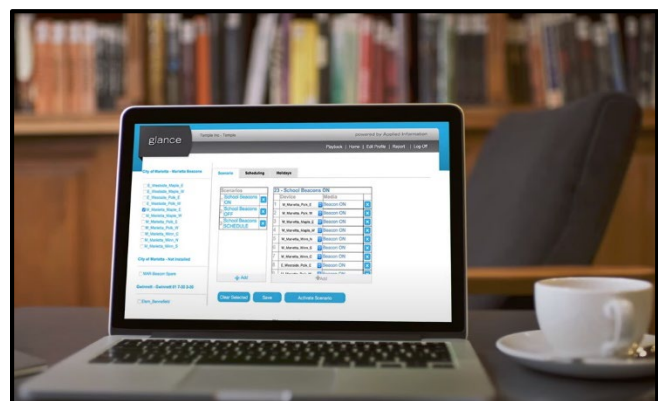
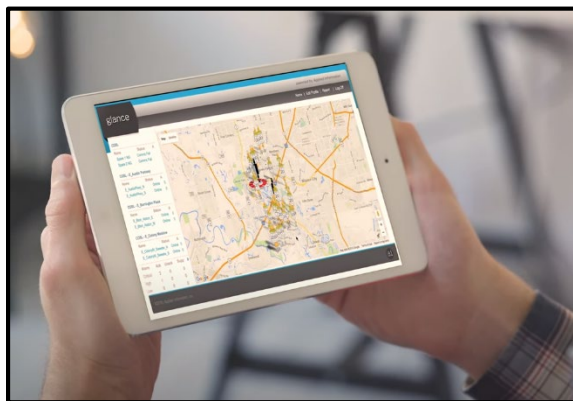


Figure 3: Glance Smart City Supervisory System – Used for Remote Viewing of System and Beacon Scheduling

The Glance School Beacon Monitoring System additionally comes standard with a connected vehicle smartphone application, TravelSafely, which adds an additional layer of safety benefits in school zones. The TravelSafely app is able to broadcast V2I (vehicle-to-infrastructure) messages to drivers in school zones, and provides visual and audible alerts indicating speeding in an active school zone, if it is detected that the beacons are on, and that the vehicle is travelling above the designated speed limit. An example of this alert is shown in the figure alongside.

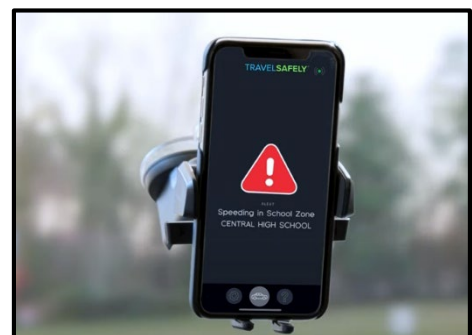


Figure 4: TravelSafely Alert

PRODUCT SPECIFICATION SHEET:



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AI-500-070 School Beacon Timer Switch and Cellular Modem

Overview

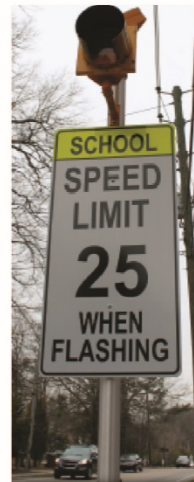
The AI-500-070 series provides a cost-effective, easy to integrate means of adding monitoring and control to School Beacons Flashers. It is designed for extreme temperature applications and has low power requirements, making it suitable for solar powered applications. The simple Integrated School Beacon Timer Switch and Cellular Modem can be retrofitted into existing School Beacon cabinets to upgrade the school beacons to the latest technology.

The unit provides an easy way to monitor the school beacons status and health such as AC power, battery backup, monitor beacon current, cabinet door open, local override control and radar speed information.

The unit works in conjunction with the Glance Platform, providing an cloud-based School Beacon solution. Simply connect the unit to your school beacons to add monitoring and control to your equipment. The unit allows you to remotely configure schedules for the school beacons from the Glance cloud based software.

Features

- ✓ Low cost Internet connectivity solution
- ✓ Low power consumption
- ✓ Compatible with Glance platform
- ✓ GPS enabled for self-locating
- ✓ Monitor beacon lamps current to determine when a beacon has failed
- ✓ Remotely change schedule to multiple devices
- ✓ Remotely monitor radar speed of vehicles
- ✓ Email & text messages when faults are detected
- ✓ Integral battery back-up for power fail reporting
- ✓ Local manual override switch
- ✓ Remote firmware updates available



Call us today to get started at [678.830.2170](tel:678.830.2170) or email us at sales@appinfoinc.com!

Hardware Specification



AI-500-070

Connectivity

Cell Modem	Yes
Ethernet Port (10/100Base-T)	Yes
RS-232 Port	Yes

Industrial I/O

Analog Inputs	AC Power, Solar Batteries & Temperature
Digital Inputs	Beacon Status & Door Open Switch
Digital Outputs	2 X Beacon Circuits

Miscellaneous

Operating Systems	µC/OS-II
GPS	Yes
Operating Temperature	-37°C to 74°C
Humidity	5-95% non-condensing
Dimensions	8" x 5" x 2"
Input Voltage	10-30v DC, 120V AC
Power Consumption DC	idle - 149mA avg; active - 212mA avg
Power Consumption AC	idle - 17mA avg; active - 24mA avg
Battery Backed Memory	Yes

Also suitable for...

Solar/battery powered	Yes
Lamp Monitoring	Yes
Scheduling	Yes

** Custom configurations available
for volume orders



SYSTEM NARRATIVE:

The Glance School Beacon Monitoring System, to be provided for this project, provides an equivalent solution to that of the “School Zone Flashing Beacon Remote Operation Equipment” identified in the proposal specifications. The AI-500-070 School Beacon Timer Switch and Cellular Modem provides a cloud-based school zone flasher system, allowing for remote system monitoring and access. The AI-500-070 units are installed/retrofit into existing school beacon cabinets and work in conjunction with Applied Information’s Glance Smart City Supervisory Platform (Glance), which will also be supplied, to provide a cloud-based solution for school beacon flashers. This connectivity allows for remote configuration of schedules and an easy way to monitor beacon status and health.

ABOUT THE SCHOOL ZONE BEACON MONITORING SYSTEM:

HARDWARE:

The hardware required for installation is the **AI-500-070 School Beacon Timer Switch and Cellular Modem**. This device is pictured in the figure alongside. The School Beacon System hardware provides a turnkey solution, where the AI-500-070 units are retrofit into existing school beacon flasher cabinets. The unit is designed to easily replace existing time switches installed in the school beacon cabinet, such as Eltec and RTC timers. The school beacon units are fully compatible with existing equipment and are mounted on the school beacon cabinet back panel. School beacon units are equipped with 4G LTE cellular modem, allowing for end-to-end cellular communication.



Figure 5: AI-500-070

In addition to this, all system components, such as circuit boards, cellular modem, etc. are incorporated into one single unit, meaning that there is only one device to maintain, as opposed to multiple devices which make up a school timer switch with connectivity.

An optional wire harnessing is designed to interface with the connectors used with some of the existing devices, such as RTC timers. Alternatively, a replacement back panel for the flasher cabinet is available to upgrade the flasher, connector, and charger components. The AI-500-070 school beacon unit can alternatively be wired in directly to the existing terminal block in the cabinet. Figures of the RTC retrofit cable connector and optional AI base plate are provided in the figures that follow:

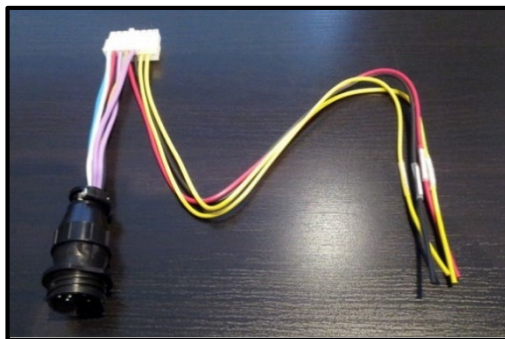


Figure 6: RTC Retrofit Cable Connector

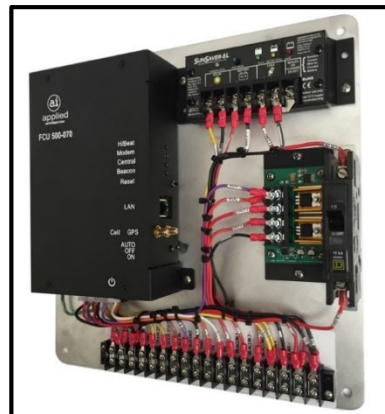


Figure 7: Optional AI Base Plate

The installation of the timer switch is simple and generally only requires the cable harness to be connected to the correct terminals. A simple puck GPS / cellular antenna (Dual MIMO Antenna) needs to be installed on the cabinet. The timer switch has two relay outputs and the units are rated at 16 Amps.

DC and AC Environments: Two types of power source options are available, as the school beacon unit supports both AC and DC systems. Therefore, either 120V AC or 12V DC (solar) power can be used to power the school beacon unit – without any additional equipment being required. All units are equipped with additional battery back-up. In the case of AC power failure, or insufficient sunlight to charge the solar panel, the unit will revert to the backup battery. The internal battery backup allows for the unit to continue reporting a system/power failure to the Glance platform for up to 5 hours.

The following figures illustrate instances of AI-500-070 unit being connected in both AC and DC environments. The exact same device is used in either AC or DC applications. The models shown are situated at the iATL (Infrastructure Automotive Technology Laboratory), which is a testing and training lab, powered by Applied Information.

AC Unit: Connected to AC power and standard 204 flashers

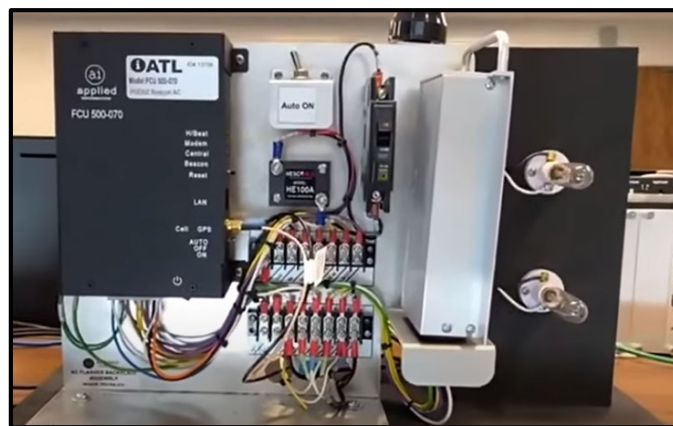


Figure 8: Illustration of AC Connected AI-500-070 Unit

DC Unit: Connected to SunSaver solar charger and DC flashers

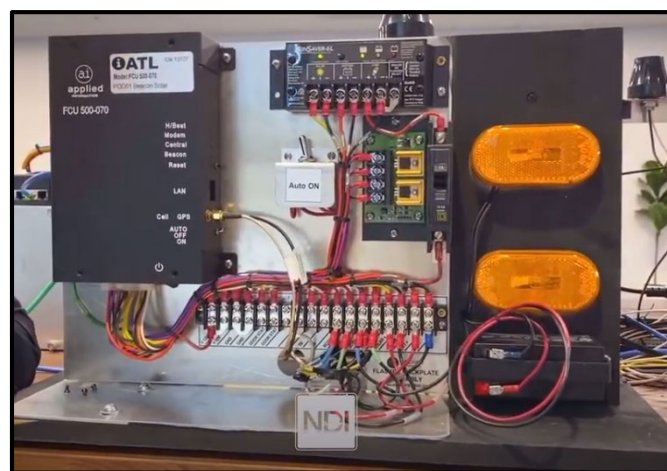


Figure 9: Illustration of DC Connected AI-500-070 Unit

In-field Install: The AI-500-070 can be mounted in the school zone flasher cabinet in varying ways to ensure the best, most advantageous use of space in the cabinet, as seen below.



Figure 10: Mounting Variations in School Flasher

All required wires are provided, and are labelled and color coded for easy install. Figures of the AI-500-070 retrofit into the school flasher cabinet are shown below.

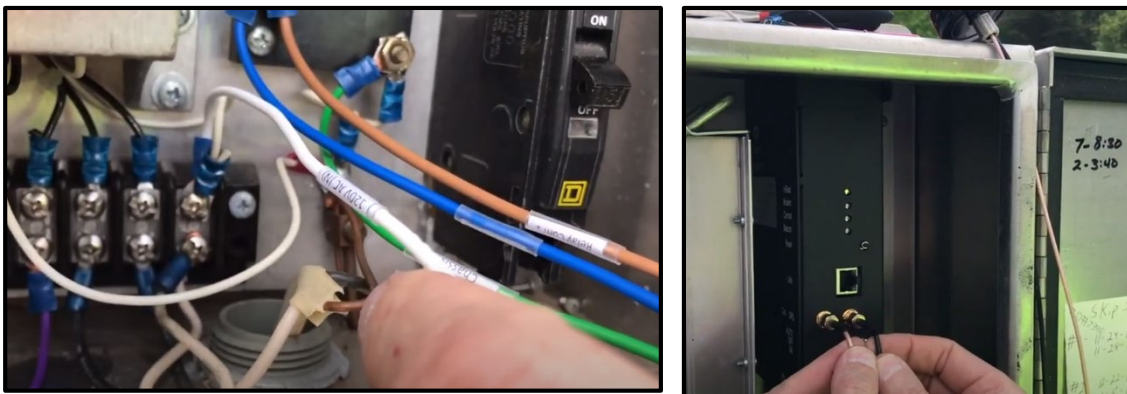


Figure 11: Wiring the AI-500-070 and Cell/GPS Antenna

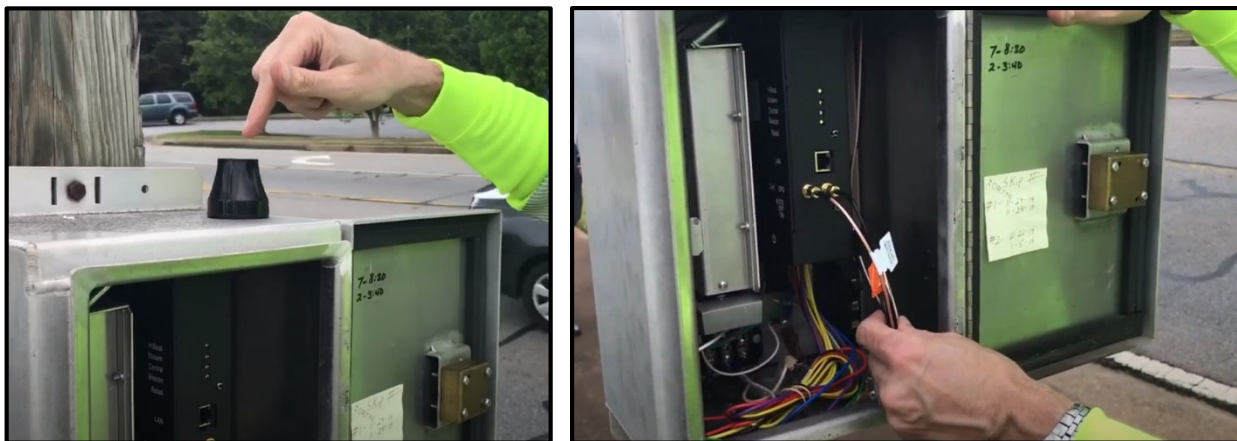


Figure 12: AI-500-070 Unit and Antenna Installed

SOFTWARE

The software associated with the Connected School Beacon System is the **Glance Smart City Supervisory System** (Glance). Glance is a cloud-based software solution that all of Applied Information’s in-field cellular-based hardware is connected to. Glance is accessed via a web-browser, meaning that no servers or special software is required for access or operation. Designed to be easy to use and intuitive, Glance allows cities to view, monitor, and control their school beacon flashers and respective schedules from anywhere, on any internet-connected device. The system can monitor if school beacons are operating correctly by monitoring the power, possible failures of the lamps or batteries, and instantly alert the necessary resources. City personnel are also able to create, update, or adjust school schedules remotely. This ensures that the beacons are consistently activated and de-activated at the correct times, even on unexpected late-start or early-release days which may be caused by inclement weather or emergency. The Glance Smart City Supervisory System makes for easy managing of traffic systems and includes many innovative features such as:



- Cloud and web-based software
- No servers needed, and no special software required, only a browser
- No maintenance costs. One-time license fee



- Devices self-locate themselves by Utilizing build in GPS & Cell Modem
- Always know where faults are as devices always report position
- Time Synchronizes with GPS time for traffic controllers



- Automatic configuration of IP address (no static IP’s needed)
- Synchronization with Glance server
- “Over-The-Air” OTA software updates



- Automated Alerts via Text and Email when cabinet faults are detected.
- AC failure, Battery failure, Flash, Red Monitor, etc.



- Control and Configure devices remotely utilizing build in Cell modem
- Know the problem before the technician leaves



- Key Performance Indicator (KPI) reports showcasing device uptime
- Automated weekly and monthly reports

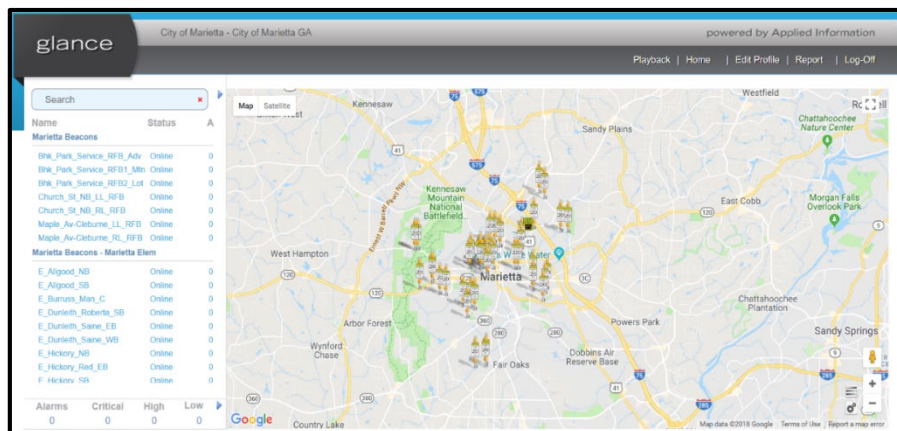


Figure 13: Glance Home Screen

Device Monitoring:

Through constant device monitoring, Glance is able to provide a device overview for each of the installed school beacon units in real time. Glance monitors all aspects of the Connected School Beacon System in order to ensure that all beacons are operating correctly. The AI-500-070 unit is capable of monitoring AC voltage, DC voltage and solar voltage, lamp failures, beacon status, door switch status, and back up battery monitoring. The unit measures the current in both of the individual lamps and is capable of determining if one or both of the beacon lamps have failed. Trending graphs are provided with the selected device overview. These graphically show selected monitoring parameters over a period of seven days. Graphs may include; beacon state, lamp fault solar battery voltage and solar array voltage for solar powered beacons, and AC voltage and monitor battery voltage for AC powered beacons.

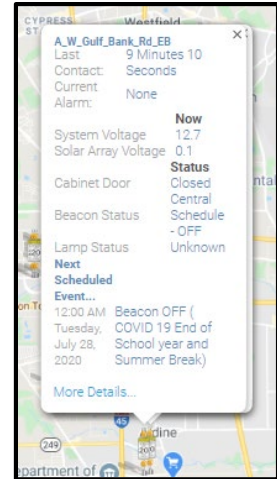


Figure 14: Device Overview

Alerting Capabilities

With 24/7 monitoring of the Connected School Beacon System, Glance is able to register if one/more of the school beacons is experiencing a fault, such as loss of power or system failure. As soon as a problem is detected, an automated alert notification is sent via email/text to notify the necessary personnel of the exact fault. This alert includes details of the detected fault, the device that is experiencing the fault, and the location of the installed device. This spares maintenance personnel time and resources, as they already know what needs to be fixed and what tools to take with them in order to fix the school beacon flasher. Once the problem is resolved, a confirmation message is sent out. This consistent monitoring and alerting capability additionally eliminates the need for scheduled maintenance, and saves city traffic maintenance personnel from having to physically driving out to school beacons to manually check on the status of the flashers and inspect the school beacon flasher.

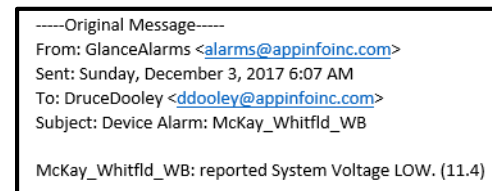
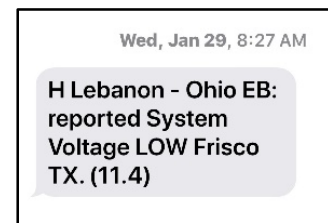


Figure 15: Text and Email Alerts

School Beacon Scheduling

Due to each of the school beacon units being equipped with their own cellular modem, it is possible to change the school beacon schedules remotely from any computer or internet connected device to ensure the beacon flashers turn on and off at the correct times. Glance supports advanced scheduling of school beacon flashers, holidays and exception days, scenarios, remote override control, schedule delays (mainly for weather-related issues) and more. All schedule information is stored locally on the AI-500-070 unit, and backed up on cloud the Glance cloud server.

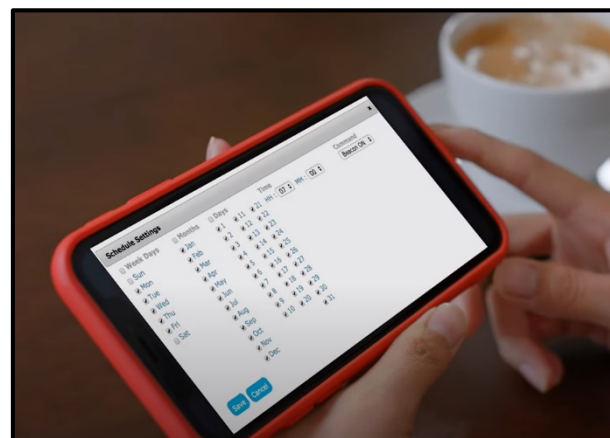


Figure 16: Remote Scheduling

Glance Reports

Glance is able to store all raw, diagnostic details of each school beacon unit. This data is then used to compile a number of reports that make it easy for the Glance user to see if there are any problems with the Connected School Beacon System, or a particular school beacon in the system, as well as to diagnose the exact root of the problem. The Report feature in Glance houses a number of useful tools which includes, but is not limited to; school beacon event logs, school beacon schedule report, beacon issue report, beacon AC voltage, beacon status, lamp status, monitor battery voltage, and a comprehensive beacon health report.

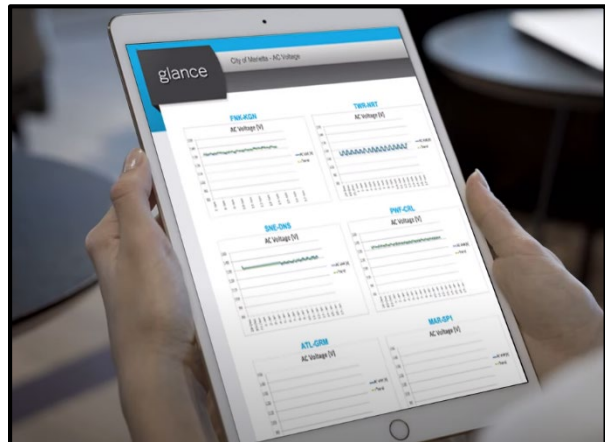


Figure 17: Glance Reporting

Communication, Data Sharing and Access to Data

Due to the AI-500-070 school beacon unit having an integrated cell modem and GPS, the device is able to self-locate itself on the Glance map as well as self-configure itself. The GPS time-sync feature additionally ensures accurate timing functions for school beacon scheduling. The school beacon unit utilizes intelligent data push so that it only sends data when new information is available or if a set period of time has passed (every 30-minutes). This allows for real time communication of faults and status updates. The data from the school beacon unit is managed, maintained, and stored on the Glance platform, and is available 24/7. Glance is accessible by authorized personnel, but data can be shared with third parties at the discretion of the City. Glance offers various levels of login. This includes a “View Only” level, where the user is only able to view devices and device detail, and an “Administrator” level where all features are available. This type of user is able to make high level changes, such as school beacon flasher schedule updates. All communications utilize XML data structures over either HTTP or HTTPS to ensure secure communications. Sending the information directly from the device also allows it to operate without the need of a static IP address and makes managing of the devices very simple.

MEETING THE SPECIFICATIONS:

EQUIPMENT SPECIFICATION:	COMPLIANCE DESCRIPTION:
<p>The selected system shall have remote access and monitoring capabilities.</p>	<p>Compliant. The Glance Smart City Supervisory System (Glance) is web-based, where only a web browser is required to access the monitoring platform. The system will be remotely accessible via all County computer/ tablet/ smartphone devices with a browser. In addition, the Glance School Beacon Monitoring System is capable of monitoring the AC, DC, and Solar voltage, lamp failures, beacon status and health, door switch status, temperature, back up battery voltage and current monitoring of each installed unit. The system is also able to store all raw, diagnostic details of each school beacon device. This data is then used to compile a number of reports, that make it easy for the user to see if there are any problems with the hardware, as well as to diagnose the root of the problem.</p> <p>These capabilities are possible due to the “AI-500-070 School Beacon Timer Switch with Cellular Modem” hardware, which includes a built-in, modular 4G LTE cellular modem for communication, and a built-in advanced GPS chipset capable of GPS Time (GPST) Sync and self-locating. Unlike other devices in the market which require different chipsets to be purchased to enable cellular communication and GPS self-locating, these features come as standard in each purchased device unit. The combined hardware enables each device to accurately be located by Glance, which enables Glance to accurately monitor the device and perform immediate scheduling changes to each device. Applied Information’s hardware is also shipped as standard with the necessary Cellular/GPS antennae required at no additional cost, as opposed to separately purchasing the required antennae. In addition, the device’s cellular communication method allows for over-the-air security/software updates to immediately be sent to the hardware by Applied Information, as opposed to a technician having to physically go to each beacon location with a laptop to perform software/security updates. Refer to the System Narrative section of this response for more information.</p> <p>The remote access capability of the proposed Glance School Beacon Monitoring System also allows for advanced remote scheduling of school beacons. Operators will be able to remotely view, create and publish schedules and schedule changes to school beacons (either individually, or as a group of beacons) via Glance. In addition, schedules are permanently stored locally in the non-volatile memory of each device and backed up on Glance servers, such that, unlike other systems, schedules are not deleted if the device suffers a power loss. Refer to the Glance Advanced Monitoring and Reporting Capabilities section for more information.</p>

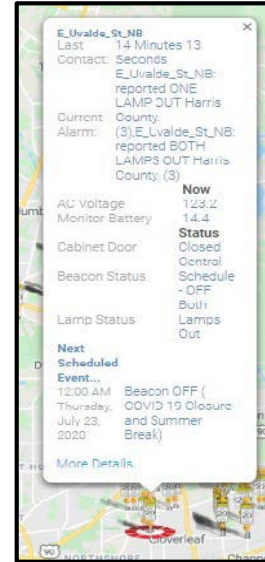
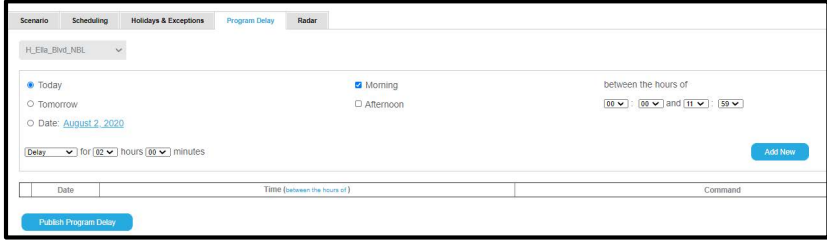
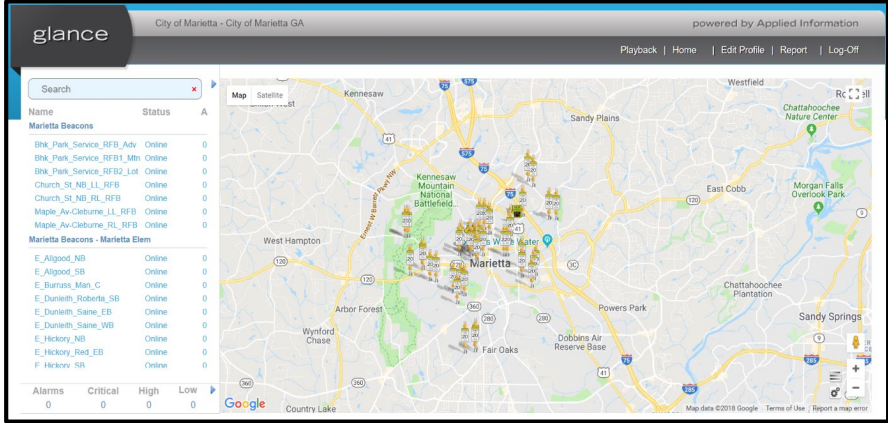

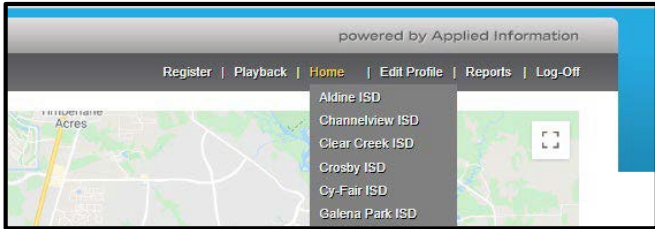

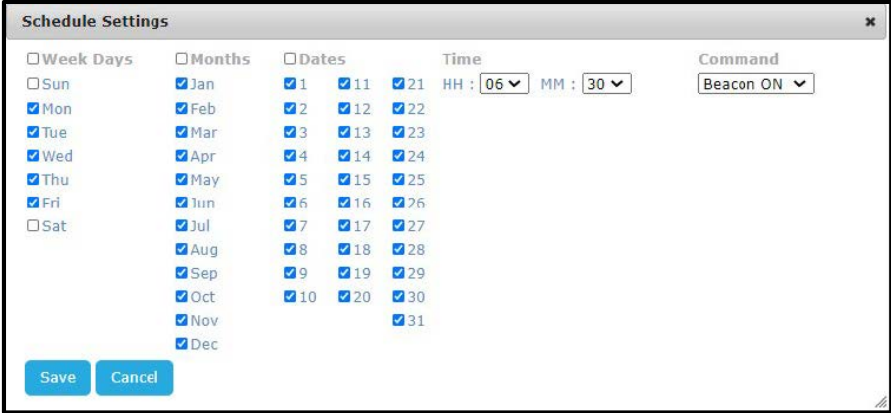
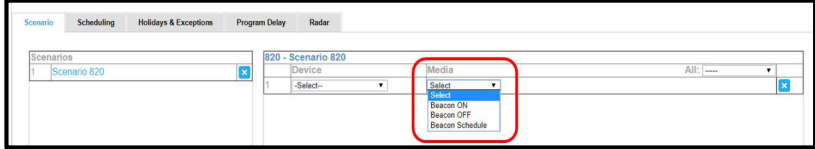


Figure 18: Beacon Device Overview

EQUIPMENT SPECIFICATION:	COMPLIANCE DESCRIPTION:
	<p>Unforeseen changes to the normal school calendar schedules such as snow days, early close, late start, severe weather events, holidays, and school events, etc., can easily be accounted for and uploaded to the relevant devices by making use of the remote update, holidays and exceptions, program delay, schedule mismatch, remote school beacon scenario override, remote beacon activation/deactivation and event scheduling features of the Glance system. For more information on the remote scheduling features of the proposed system, refer to the Glance Advanced Scheduling Capability section of this response.</p>  <p><i>Figure 19: Example of Program Delay Configuration During Unforeseen Schedule Changes</i></p>
<p>The selected system will be capable of 24/7 operation.</p>	<p>Compliant. The Glance School Monitoring System is designed to provide constant, real-time, and 24/7 remote monitoring of each installed school beacon unit in order to ensure that all beacons are operating correctly. This is made possible through the built-in 4G LTE cellular modem that is equipped on each device unit as standard, which enables constant communication with the Glance platform. Each device automatically checks in with Glance every 30 minutes, sending information on the device status. Should an event change occur in-field, the system will immediately report the change on a real-time basis to Glance. System faults are then communicated via text or email to the relevant maintenance personnel. In addition, each device is equipped as standard with a backup battery that lasts up to 5 hours, such that if critical power loss occurs e.g., due to a loss of grid power, then the device will still be able to issue alerts to the relevant personnel, informing them of an ongoing fault.</p>

EQUIPMENT SPECIFICATION:	COMPLIANCE DESCRIPTION:
	<p>County personnel will be able to have a remote, web-browser based overview of the entire system via the Glance Home Screen. Each beacon's AC, DC, and Solar voltage, lamp failure, beacon health, door switch, temperature, and back up battery voltage status are continuously monitored and reported on the Glance Home Screen. If any of the aforementioned parameters goes out of pre-defined tolerance range, an alert will immediately be sent out to the relevant personnel in order for the fault to be attended to as soon as possible. This minimizes system downtime, and ensures that the system will operate according to the defined schedules, or the dynamic schedule changes that are set by the County. Refer to the Glance Advanced Monitoring and Reporting Capability, as well as the Glance Advanced Alarm and Alerts Capability sections of this response for more information.</p>  <p style="text-align: center;"><i>Figure 20: The Glance Home Screen</i></p>
<p>The selected system will have an easy-to-understand web interface.</p>	<p>Compliant. The Glance platform, the central system through which the Glance School Beacon Monitoring System is equipped with an easy-to-understand web interface that is accessible via any web-browser enabled device. Glance utilizes an intuitive, easy-to-use map-based graphical user interface (GUI), which allows users to locate and manage all of their school beacons. The system is based off of Google Maps and supports multiple features of Google Maps, such as map view or street view, on the platform. Each beacon is displayed on the map using a dedicated school beacon icon to allow easy visual location of each device, where other interfaces in the market may only display generic icons that make it difficult to distinguish the device a user may be looking at. In addition, the Glance Home Screen has a list-based interface as well which lists the system beacons for easy identification of beacons. From the Home Screen, the user will also be able to see faulty beacon locations on the map/list, and view a summary of the alarms and alerts that have been detected.</p>  <p style="text-align: center;"><i>Figure 21: Summary of Alarms and Alerts on the Home Screen</i></p>

EQUIPMENT SPECIFICATION:	COMPLIANCE DESCRIPTION:
	<p>The user will also be able access other Glance menus such as the Edit Profile and Reports menus through the Home Screen. Refer to Figure 3 above for an example image of the Glance Home Screen, as well as the Glance Advanced Monitoring and Reporting Capability/Glance Advanced Alarm and Alerts Capability sections of this response for more information on the system’s web interface.</p>  <p><i>Figure 22: Menus Accessible on the Glance Home Screen</i></p>
<p>The selected system will have the ability to call on multiple calendar events.</p>	<p>Compliant. Scheduled events can be created and published from any computer or internet-connected device with a browser to the field controller (i.e., school beacon timer switch) via the Glance platform. Glance supports:</p> <ul style="list-style-type: none"> • Remote scheduling of school beacons, where devices can be remotely uploaded or changed to ensure the flashers are ON/OFF at the correct times. • Scheduling for holidays and exceptional days, where normal schedules can be substituted for school holiday and special event schedules. Unlike other systems in the market, the Glance system allows these special schedules to be pre-programmed for automatic application during the desired period of time, so that no operator will have to physically attend to each beacon in-field to change schedules. • Remote beacon scenario override, where the operators can create schedules that can be activated over the normal school schedule when unexpected events such as extreme weather conditions, or school program delays occur. • Remote beacon activation control, where the operators will be able to remote switch the beacon ON/OFF, or back to the selected schedule. • Program delays (mainly for weather-related issues), where a schedule can be delayed for a particular day. The system automatically reverts back to the normal schedule the next day. • Schedule mismatch detection, where the user can be notified when the schedule that is stored in the central system does not match with the schedule in the devices.  <p><i>Figure 23: Remote Beacon Activation/Deactivation/Set to Schedule</i></p> <p>For additional information on the above features, refer to the Advanced Scheduling Capabilities section.</p>

EQUIPMENT SPECIFICATION:	COMPLIANCE DESCRIPTION:
<p>The selected system will have the ability to call on TOD and DOW operation</p>	<p>Compliant. The Glance software is capable of remotely configuring school beacon schedules, and updating them according to week days, months, dates, time of day, and command (ON/OFF/Set to selected Schedule). Refer to the Glance Advanced Scheduling Capability section of this response for more information.</p>  <p style="text-align: center;"><i>Figure 24: Schedule Settings in Glance</i></p>
<p>The selected system will have the ability to override plans to respond to unscheduled events.</p>	<p>Compliant. County operators can manually override scheduled beacon ON/OFF times, and immediately turn beacons on or off or back to schedule via Glance. By making use of the remote beacon scenario feature, operators will be able to pre-configure individual or groups of beacons to turn on/off or back to a pre-defined schedule. Such scenarios may include snow days, early closes, late starts/closes, holidays, school events, etc.; where the event is unexpected and quick changes would need to be made to the normal school beacon schedule. The Glance system is able to implement these dynamic changes remotely because of its built-in 4G LTE cellular modem, which enables instant communication between devices and the central server. This means that unlike other systems which do not have cellular communication as standard, operators would not need to physically attend to each beacon in-field, saving valuable time and improving system efficiency. Refer to the Advanced Scheduling Capabilities section for additional information.</p>  <p style="text-align: center;"><i>Figure 25: Scenario Override in Glance</i></p>

EQUIPMENT SPECIFICATION:	COMPLIANCE DESCRIPTION:
Power Specifications	
System hardware units shall be able to operate using either AC or DC power depending on the location	<p>Compliant. Where other school beacon units in the market require additional devices to support AC or DC power sources, Applied Information’s school beacon units support both AC (120V) and 12 VDC (solar) power sources within the same unit at no additional cost. The hardware is included as standard for each unit purchase, and no additional hardware will be required for the unit to operate in either an AC or DC environment. For more information, refer to the Hardware sub-section in the System Narrative section of this response.</p>
Communication Specifications	
System hardware units will allow for cellular communication	<p>Compliant. Each Glance school beacon hardware unit is equipped with a built-in cellular modem, allowing for wireless communication with the Glance central system, and allowing for any software/security/schedule updates to be sent and implemented immediately over the 4G LTE cellular network. This decentralized method of communication allows for each device to be individually configured and monitored, such that individual operation of the school beacons can continue even when the central server, or other school beacons in the system are not functional. This maximizes system reliability and minimizes system downtime.</p> <p>In addition, the design of the cellular modem is modular, such that modems can be easily swapped out for newer, and faster cellular communication technology as it becomes available e.g., 5G technology. These upgrades will be included in the purchased Connectivity and Support Plan, where Applied Information will upgrade each device’s cellular modem e.g., from 4G LTE to 5G at no additional upgrade cost to the County. The necessary antenna will also be provided for each unit at no additional cost to the County as upgrades proceed. Applied Information is currently in the midst of a 3G to 4G modem upgrade for previous projects with an active Connectivity and Support Plan at no additional cost to the clients. This is in contrast to other systems in the market, where cellular modem upgrades as well as the necessary hardware are bought separately at an added cost.</p>

SCHOOL ZONE FLASHING BEACON REMOTE OPERATION EQUIPMENT SPECIFICATION:

Remote Operation Beacon Upgrade Bundle 1 which includes the following:
RTC AP22 Time Clock with Guardian 1 Board, M2M 4G Modem with Paddle Antenna And 5 Year Communication Plan including on-site installation assistance and 24-hour technical phone support (or equivalent that meets ALL the same specs as these products in relation to size, operation, warranties, features, etc.) or equivalent

Applied Information provides an equivalent solution to the requested School Zone Flashing Beacon Remote Operation Equipment.

The proposed **Glance School Beacon Monitoring System** field device provides a compact, all-in-one solution where, unlike other existing systems, the proposed equivalent system will not need separate circuit board, mounting bracket, cellular modem, or other peripheral devices. All required hardware is built-in to the “**AI-500-070 School Beacon Timer Switch with Cellular Modem**”. The AI-500-070 device is able to operate in either an AC or DC environment without the need to purchase additional equipment to augment the system. Each equivalent unit is equipped with a built-in 4G LTE modem for fast and reliable cellular communication with the central server. Each equivalent unit is also shipped with the necessary hardware to complete the installation, including antenna, wiring harness, and mounting brackets. 5-year communication plan is also included under the purchased Connectivity and Support plan, which provides the County with unlimited cellular connectivity within the duration of the purchased plan. Applied Information is additionally able to provide 1-year, 3-year, or 10-year Connectivity and Support Plans. Under the Connectivity and Support Plan, the County will also be provided with on-site installation assistance, free cellular modem upgrades, software/security over-the-air updates, and telephonic support.

Remote Operation Beacon Upgrade Bundle 2 which includes the following:
RTC AP22 Time Clock with Guardian2 Board, M2M 4G Modem with Paddle Antenna And 5 Year Communication Plan including installation and technical support (or equivalent that meets ALL the same specs as this product in relation to size, operation, warranties, features, etc.) or equivalent

Applied Information provides an equivalent solution to the requested School Zone Flashing Beacon Remote Operation Equipment.

The proposed **Glance School Beacon Monitoring System** field device provides a compact, all-in-one solution where, unlike other existing systems, the proposed equivalent system will not need separate circuit board, mounting bracket, cellular modem, or other peripheral devices. All required hardware is built-in to the “**AI-500-070 School Beacon Timer Switch with Cellular Modem**”. The AI-500-070 device is able to operate in either an AC or DC environment without the need to purchase additional equipment to augment the system. Each equivalent unit is equipped with a built-in 4G LTE modem for fast and reliable cellular communication with the central server. Each equivalent unit is also shipped with the necessary hardware to complete the installation, including antenna, wiring harness, and mounting brackets. 5-year communication plan is also included under the purchased Connectivity and Support plan, which provides the County with unlimited cellular connectivity within the duration of the purchased plan. Applied Information is additionally able to provide 1-year, 3-year, or 10-year Connectivity and Support Plans. Under the Connectivity and Support Plan, the County will also be provided with on-site installation assistance, free cellular modem upgrades, software/security over-the-air updates, and telephonic support.

SCHOOL ZONE FLASHING BEACON REMOTE OPERATION EQUIPMENT SPECIFICATION:

Remote Operation Beacon Upgrade Bundle 3 which includes the following:

RTC AP22 Time Clock with AC Guardian Board, M2M 4G Modem with Paddle Antenna And 5 Year Communication Plan including installation and technical support (or equivalent that meets All the same specs as this product in relation to size, operation, warranties, features, etc.) or equivalent

Applied Information provides an equivalent solution to the requested School Zone Flashing Beacon Remote Operation Equipment.

The proposed **Glance School Beacon Monitoring System** field device provides a compact, all-in-one solution where, unlike other existing systems, the proposed equivalent system will not need separate circuit board, mounting bracket, cellular modem, or other peripheral devices. All required hardware is built-in to the “**AI-500-070 School Beacon Timer Switch with Cellular Modem**”. The AI-500-070 device is able to operate in either an AC or DC environment without the need to purchase additional equipment to augment the system. Each equivalent unit is equipped with a built-in 4G LTE modem for fast and reliable cellular communication with the central server. Each equivalent unit is also shipped with the necessary hardware to complete the installation, including antenna, wiring harness, and mounting brackets. 5-year communication plan is also included under the purchased Connectivity and Support plan, which provides the County with unlimited cellular connectivity within the duration of the purchased plan. Applied Information is additionally able to provide 1-year, 3-year, or 10-year Connectivity and Support Plans. Under the Connectivity and Support Plan, the County will also be provided with on-site installation assistance, free cellular modem upgrades, software/security over-the-air updates, and telephonic support.

RTC AP22 Time Switch or equivalent

The proposed equivalent “AI-500-070 School Beacon Timer Switch with Built-In Cellular Modem” unit is a robust, all-in-one system that incorporates a timer switch, circuit board, cellular modem for connectivity, AC / DC / Solar power source options, and remote monitoring / configuration capability via a cloud-based solution. See the response above, as well as the System Narrative section of this response for more information.

RTC Guardian Circuit Board or equivalent

The proposed AI-500-070 unit is a robust, all-in-one system that incorporates a timer switch, circuit board, cellular modem for connectivity, AC/DC/Solar power source options, and remote monitoring/configuration capability via a cloud-based solution. This solution has a built-in circuit board, and will not require an add-on circuit board. See the response above, as well as the System Narrative section of this response for more information.

RTC Guardian Circuit Board w/mounting bracket or equivalent

The proposed equivalent AI-500-070 unit is a robust, all-in-one system that incorporates a timer switch, circuit board, cellular modem for connectivity, AC/DC/Solar power source options, and remote monitoring/configuration capability via a cloud-based solution. It will not require added peripherals for circuit board functionality. The unit will not require a separate mounting bracket for installation; all components are encased in a compact box with built-in mounting brackets. See above response, as well as System Narrative section of this response for more information.

RTC M2M Cellular Modem or equivalent

The proposed equivalent AI-500-070 unit is a robust, all-in-one system that incorporates a timer switch, circuit board, cellular modem for connectivity, AC/DC/Solar power source options, and remote monitoring/configuration capability via a cloud-based solution. The unit has a 4G LTE modem built into it for cellular communication. Additionally, the cellular modem is modular in design, such that it can easily be swapped out for newer technology, e.g., 5G connectivity, without additional costs as per the terms of the purchased Connectivity and Support Plan. See above response, as well as the System Narrative section of this response for more information.

SCHOOL ZONE FLASHING BEACON REMOTE OPERATION EQUIPMENT SPECIFICATION:

RTC M2M Cellular Modem with included 1-year communication plan or equivalent

Each Applied Information device shall be covered under a Connectivity and Support Plan. This plan can be provided for 1-year as per the County’s discretion. A full warranty on the hardware and software is also included for the duration of the purchased Connectivity and Support plan. Refer to the detailed Warranty Information section below for more information.

RTC M2M Cellular Modem with included 3-year communication plan or equivalent

Each Applied Information device shall be covered under a Connectivity and Support Plan. This plan can be provided for 3-year as per the County’s discretion. A full warranty on the hardware and software is also included for the duration of the purchased Connectivity and Support plan. Refer to the detailed Warranty Information section below for more information.

RTC M2M Cellular Modem with included 5-year communication plan or equivalent

Each Applied Information device shall be covered under a Connectivity and Support Plan. This plan can be provided for 5-year as per the County’s discretion. A full warranty on the hardware and software is also included for the duration of the purchased Connectivity and Support plan. Refer to the detailed Warranty Information section below for more information.

RTC M2M Cellular Modem with included 10-year communication plan or equivalent

Each Applied Information device shall be covered under a Connectivity and Support Plan. This plan can be provided for 10-year as per the County’s discretion. A full warranty on the hardware and software is also included for the duration of the purchased Connectivity and Support plan. Refer to the detailed Warranty Information section below for more information.

Glance Advanced Capabilities

The Glance School Beacon Monitoring system is equipped with a number of advanced capabilities for school beacon scheduling, system monitoring and reporting, as well as for alarms and alerts. This section provides further details on these capabilities.

Glance Advanced Scheduling Capability:

Remote Scheduling: Due to each of the school beacon units being equipped with their own cellular modem, it is possible to change the school beacon schedules remotely from any computer or internet connected device to ensure the beacon flashers turn on and off at the correct times. Glance supports advanced scheduling of school beacon flashers, holidays and exception days, scenarios, remote override control, schedule delays (mainly for weather-related issues) and more. All schedule information is stored locally on the AI-500-070 unit. Alternatively, the device can be programmed using an Ethernet cable on-site.

An example of the scheduling feature in Glance can be seen in the figure below:

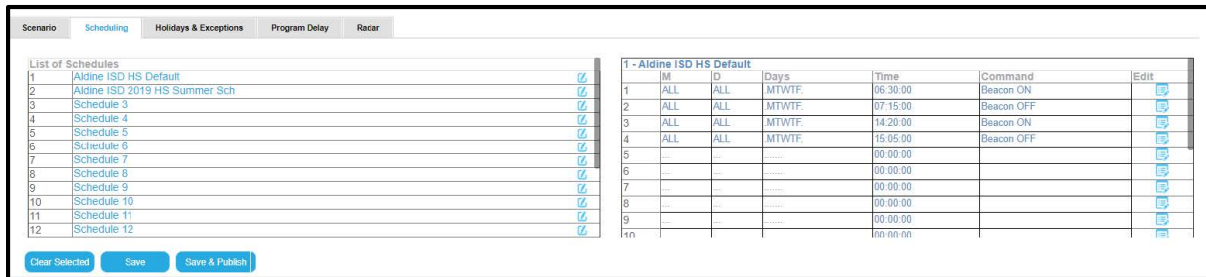


Figure 26: Scheduling Schools Beacons in Glance

School Beacon schedules are updated according to week days, months, dates, time of day, and command (ON/OFF), as seen in the scheduling setting below:

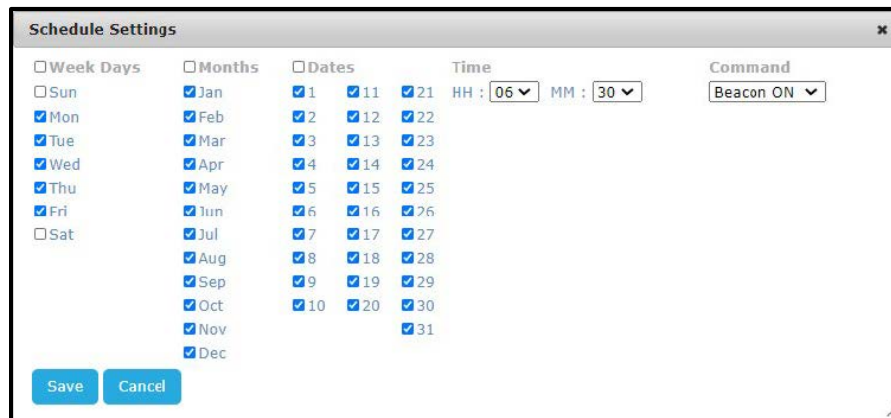
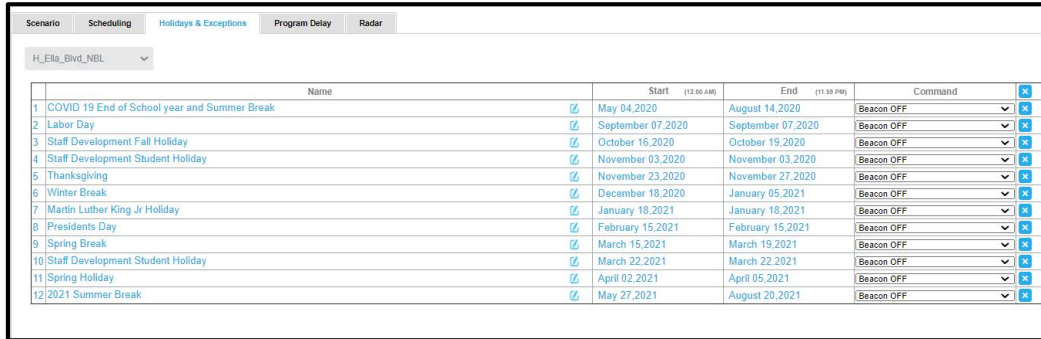


Figure 27: Scheduling Settings in Glance

Holidays and Exceptions: The Glance platform has a built in “Holidays and Exceptions” tab specifically for the purpose of turning beacons off during the school holidays, or due to special events, such as scheduled early release days, or late start days. An example of a Holidays and Exceptions tab with scheduled holiday and exception events for the school year can be seen in the figure below:



	Name	Start (12:00 AM)	End (11:59 PM)	Command
1	COVID 19 End of School year and Summer Break	May 04, 2020	August 14, 2020	Beacon OFF
2	Labor Day	September 07, 2020	September 07, 2020	Beacon OFF
3	Staff Development Fall Holiday	October 16, 2020	October 19, 2020	Beacon OFF
4	Staff Development Student Holiday	November 03, 2020	November 03, 2020	Beacon OFF
5	Thanksgiving	November 23, 2020	November 27, 2020	Beacon OFF
6	Winter Break	December 18, 2020	January 05, 2021	Beacon OFF
7	Martin Luther King Jr Holiday	January 18, 2021	January 18, 2021	Beacon OFF
8	Presidents Day	February 15, 2021	February 15, 2021	Beacon OFF
9	Spring Break	March 15, 2021	March 19, 2021	Beacon OFF
10	Staff Development Student Holiday	March 22, 2021	March 22, 2021	Beacon OFF
11	Spring Holiday	April 02, 2021	April 05, 2021	Beacon OFF
12	2021 Summer Break	May 27, 2021	August 20, 2021	Beacon OFF

Figure 28: Example of Holidays and Exceptions

Program Delay: Glance has a built in “Program Delay” feature which allows the user to delay, advance, or cancel schedules. This schedule delay only affects the selected day’s schedule. The following day, the schedule will revert back to normal. Operators will have the option to select today, tomorrow or any selected date. Operators shall also be able to select to only delay the morning schedule or the afternoon schedule or both.

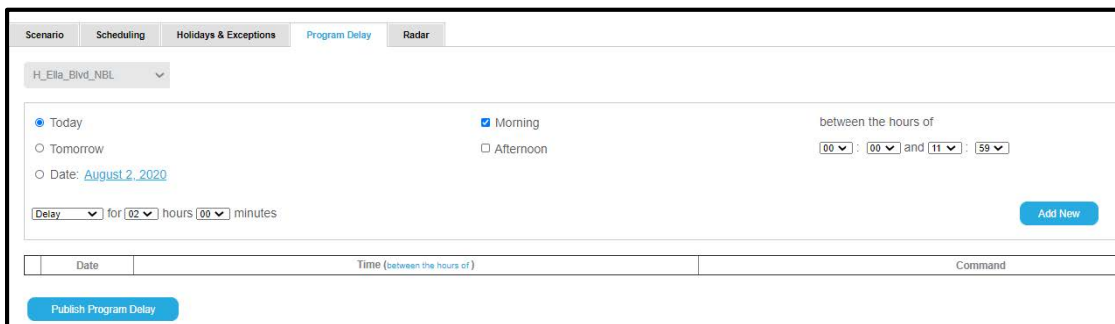


Figure 29: Program Delay Feature in Glance

Schedule Mismatch: Glance is able to determine and notify the user of a schedule mismatch, where the schedule that is stored in the central system is different to the schedule in the devices. The system can indicate which devices have a schedule mismatch and operators can also see the cause of the mismatch. A blue dot on devices in the device list shows that a mismatch has been detected. Schedule mismatches are cleared once the correct schedule is loaded.



Aldine ISD - Davis High		
<input checked="" type="checkbox"/>	H_Ella_Blvd_NBL	Online 0
<input type="checkbox"/>	H_Ella_Blvd_NBR	Comms Fail 0
<input type="checkbox"/>	H_Ella_Blvd_SBL	Online 0
<input type="checkbox"/>	H_Ella_Blvd_SBR	Online 0
<input type="checkbox"/>	H_Sprgs_Grs_Rd_NB	Online 0
<input type="checkbox"/>	H_Sprgs_Grs_Rd_NB2	Online 0
<input type="checkbox"/>	H_Sprgs_Grs_Rd_SB1	Online 0
<input type="checkbox"/>	H_Sprgs_Grs_Rd_SB2	Online 0

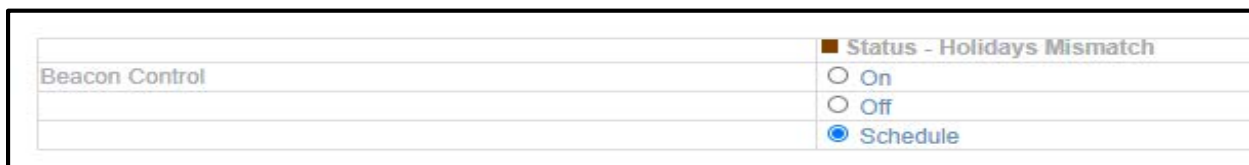


Figure 30: Examples of Schedule Mismatch in Glance

Remote Beacon Scenario Override: Glance has a built-in feature which allows for the creation of remote scenarios, in preparation for unexpected events. Scenarios can be sent to single, multiple or groups of beacons using a single click on the Glance user interface. Scenarios are used for unforeseen events such as extreme weather conditions / early release / late starts etc. This feature allows for short-term changes to beacon schedules. The figures below illustrate the School Beacon Scenario Remote Override feature offered in Glance and how it is used for the facilitation of unexpected changes to school beacon schedules.

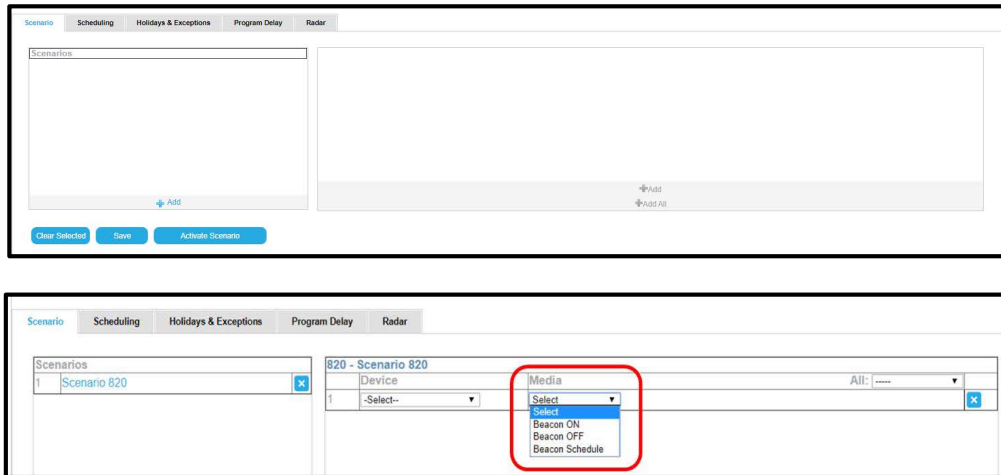


Figure 31: Setting up of Beacon Scenario in Glance

Remote Beacon Activation/Deactivation: In addition to the local override switch at the beacon site location, the beacon can be remotely activated/deactivated or set to Schedule via the Glance platform. The operator will require an internet-enabled device such as a personal computer, tablet, or smartphone with a web browser in order to make use of this feature.



Figure 32: Remote Beacon Activation/Deactivation in Glance

Scheduled Events: All upcoming schedule information (for the next seven scheduled events) are shown on the list of “Next Scheduled Events” seen on the Glance device detail page. This allows for understanding of the planned operation of the schedule that is currently published to the device.

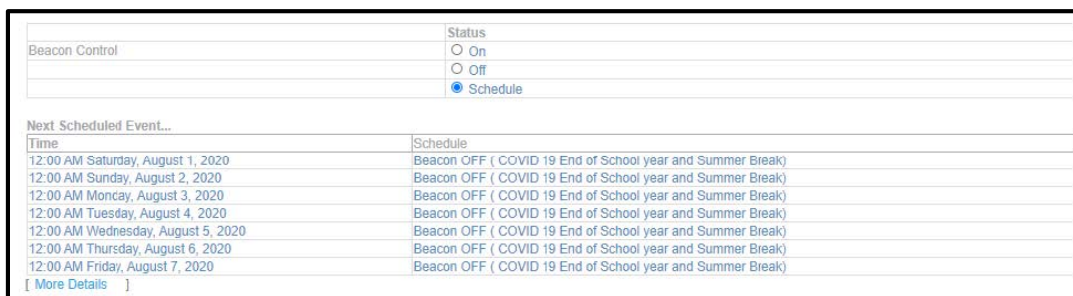


Figure 33: Example of Schedules Events in Glance

Glance Advanced Monitoring and Reporting Capability:

Through constant device monitoring, Glance is able to provide a device overview for each of the installed school beacon units in real time. Glance monitors all aspects of the Glance School Beacon Monitoring System in order to ensure that all beacons are operating correctly. The AI-500-070 unit is capable of monitoring; AC voltage, DC voltage and solar voltage, lamp failures, beacon status, door switch status, and back up battery monitoring. The unit measures the current in both of the individual lamps and is capable of determining if one or both of the beacon lamps have failed. Trending graphs are provided with the selected device overview. These graphically show selected monitoring parameters over a period of seven days. Graphs may include; beacon state, lamp fault solar battery voltage and solar array voltage for solar powered beacons, and AC voltage and monitor battery voltage for AC powered beacons.

Monitoring:

Glance Monitoring System Interface Overview: The Glance platform is web-based, and can be accessed by any modern browser and on any smart device, such as a computer / laptop / tablet / smartphone. All school beacon devices will be integrated into Applied Information’s Smart City Management Platform, Glance. The Glance Home Screen shows all the installed school beacon devices on a graphical/map interface, as well as in a list-based interface on the left-hand side of the screen. An example of the Glance Home Screen is shown below (right). Additionally, by clicking on a school beacon icon, a “device overview” is shown, where the device’s current parameters can be seen. This is shown in the figure below (left).

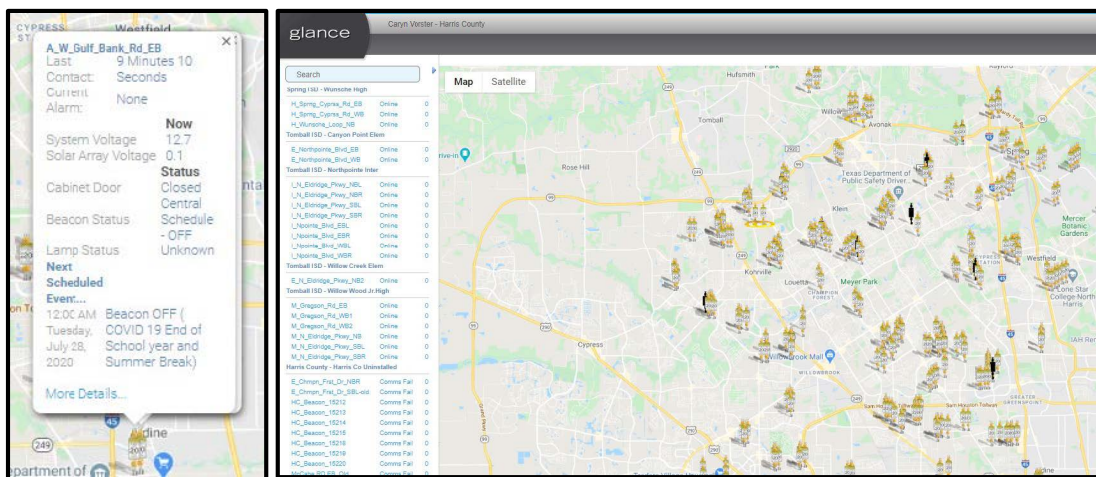


Figure 34: Device Overview and Glance Home Screen

By clicking on “More Details” on the device overview pop-up, the operator will be able access and view the detail display for that particular school beacon device. On this page, details on the beacon status, alarm activity, schedule, AC and Monitor Battery Voltage, and other parameters are given. The image below shows an example of all the parameters displayed on that screen. An explanation of the beacon detail display follows.

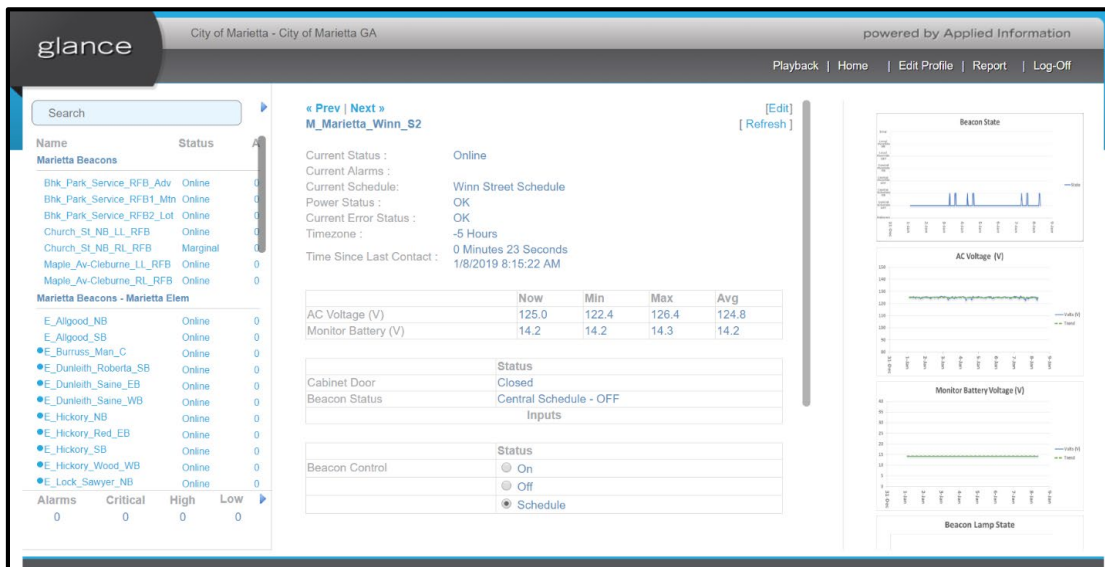


Figure 35: Beacon Detail Display Screen

- **Refresh** – refreshes contact with the in-field device and sends / receives information on a real-time basis.
- **Time Since Last Contact** – indicates the time that the beacon last “checked in” with Glance. This will be updated as soon as the beacon checks in with Glance, and is generally every 30 minutes, or when the beacon is refreshed.
- **Beacon Status** – Shows the current status of the beacon. This could be Central Schedule OFF, Central Schedule ON Central Override OFF, Central Override ON, Local Override OFF, Local Override ON, and Error.
- **Beacon Control** – allows for the manual override of an individual beacon status. This can be changed to an “On”, “Off” or “Schedule” status.

The following images show changes to these statuses, according to schedule changes and checking in with Glance.

Time Since Last Contact. This time changes if a command is issued, and the device is refreshed, such that information is sent to / received from the field device.



Figure 36: Time Since Last Contact in Glance

Status Override. The status of the beacon can be changed, and is indicated in the figure below.



Figure 37: Beacon Status Override Example

Beacon State Graphs. Real time graphs of each of the AC mains voltage, battery and battery back-up voltage, solar charge voltage and beacon failure state parameters are provided in graphical form. The following figures show examples of the provided graphs.

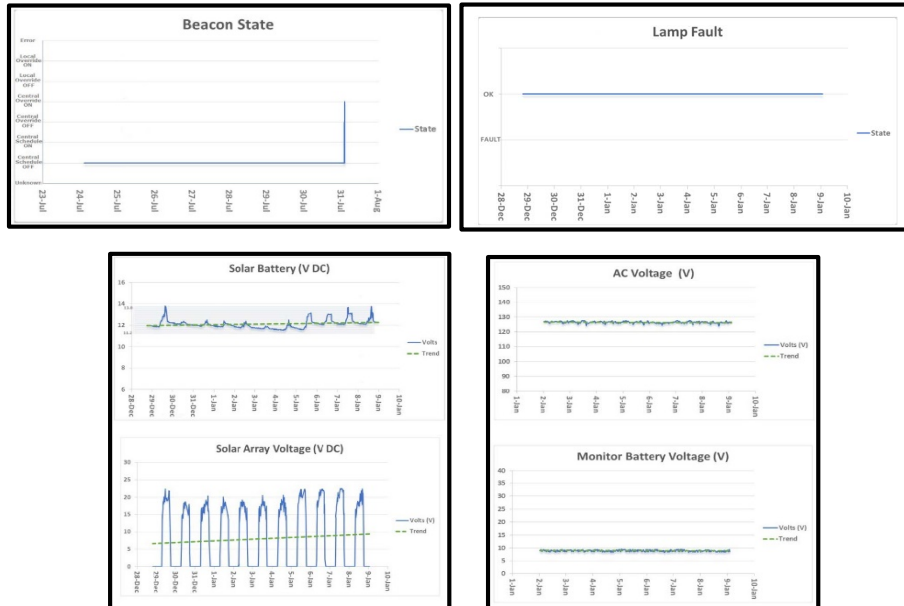


Figure 38: Examples of Beacon State Monitoring Graphs

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Clicking on “More Details” in the beacon detail display will allow the operator to access the Glance Diagnostic and Log Display for a school beacon device. On this display, the operator is able to filter the diagnostics/data log, formats, view the data and error logs, as well as print/download the data to Microsoft Excel or .PDF

The screenshot displays the 'glance' diagnostic interface for a school beacon device. The interface is divided into three main sections: 'Data Log 10', 'Data Log Device', and 'Error Log'. The 'Data Log 10' section shows a table of system data over time, including System Voltage, Monitor Battery, Solar Array Voltage, and various status indicators like Cabinet Door, Beacon Status, Lamp Status, and Lamp Status 2. The 'Data Log Device' section provides a more detailed view of the device's internal components and their status. The 'Error Log' section displays a list of error messages, including system configuration updates, communication errors, and time zone adjustments. The interface also includes navigation buttons for 'Register', 'Playback', 'Home', 'Edit Profile', 'Reports', and 'Log Off', along with a search bar and a 'Back' button.

Date	System Voltage	Monitor Battery	Solar Array Voltage	Beacon Status	Lamp Status	Lamp Status 2
July 31, 2020 9:24:09	13.3	9.0	9.0	Closed	Central Schedule - OFF	OK
July 31, 2020 9:34:09	13.3	9.0	9.0	Closed	Central Schedule - OFF	OK
July 31, 2020 9:44:09	13.4	9.0	9.0	Closed	Central Schedule - OFF	OK
July 31, 2020 9:54:09	13.4	9.0	9.0	Closed	Central Schedule - ON	OK
July 31, 2020 10:04:09	13.3	9.0	9.0	Closed	Central Schedule - ON	OK
July 31, 2020 10:14:09	13.3	9.0	9.0	Closed	Central Schedule - OFF	OK
July 31, 2020 10:24:09	13.3	9.0	9.0	Closed	Central Schedule - OFF	OK
July 31, 2020 10:34:09	13.3	9.0	9.0	Closed	Central Schedule - OFF	OK
July 31, 2020 10:44:09	13.3	9.0	9.0	Closed	Central Schedule - OFF	OK
July 31, 2020 10:54:09	13.3	9.0	9.0	Closed	Central Schedule - OFF	OK
July 31, 2020 11:04:09	13.3	9.0	9.0	Closed	Central Schedule - OFF	OK
July 31, 2020 11:14:09	13.3	9.0	9.0	Closed	Central Schedule - OFF	OK
July 31, 2020 11:24:09	13.3	9.0	9.0	Closed	Central Schedule - OFF	OK
July 31, 2020 11:34:09	13.3	9.0	9.0	Closed	Central Schedule - OFF	OK
July 31, 2020 11:44:09	13.3	9.0	9.0	Closed	Central Schedule - OFF	OK
July 31, 2020 11:54:09	13.3	9.0	9.0	Closed	Central Schedule - OFF	OK

Figure 39: The Glance Diagnostic and Log Display

Reporting:

Glance Advanced Reporting Capabilities: Glance offers a number of reports for school beacons. The reports tab is pictured in the figure below. Here, it can be seen that reports include; School Beacon Event Log, School Beacon Schedule Report, Beacon Health Report, AC Voltage Graphs, BBS Battery Voltage Graphs, Beacon Status Graphs, Cabinet Temperature Graphs, Humidity Graphs, Lamp Status Graphs, Monitor Battery Voltage Graphs, Solar Array Voltage Graphs, and Solar Battery Voltage Graphs. Additionally, the “Reports” Tab has a number of different reporting features available, which includes; the Report Viewer, On Demand Reports, User Activity, Alarm Activity, Graph Comparison, and more. All reports are viewable via the browser-based Glance platform. If desired, the user is able to download the CSV files for importing into Excel, print reports, or download as a PDF and save to the local computer.



Figure 40: Reports Tab in Glance

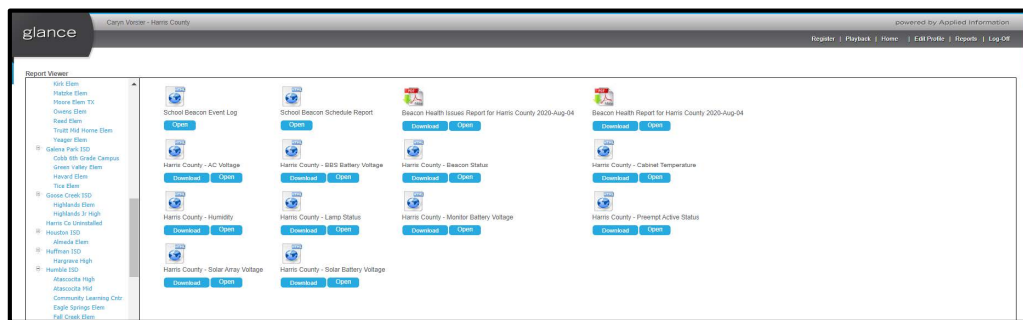


Figure 41: Examples of Reports Generated by Glance

Beacon Health Report: One of the more useful reports generated by Glance is the Beacon Health Report, which details key performance indicators as shown in the figure which follows. It indicates whether a device is ONLINE or OFFLINE, the minimum and maximum voltages (System Voltage and Solar Array Voltage, or AC Voltage and Monitor Battery, depending on whether it is an AC or DC beacon), the status of the voltage (whether it is GOOD / FAIR / BAD), indication of whether there are any lamps out, and the percentage communication reliability.

Beacon Health Report for Harris County

22 July, 2020 03:29 AM

Business	Device	System Voltage (Avg.)			Solar Array Volt (Avg.)			AC Voltage (Avg.)			Monitor Battery		Lamp	Cell Signal	% Comm. Reliability
		MIN	MAX	STATE	MIN	MAX	STATE	MIN	MAX	STATE	MIN	MAX			
Harris County: Harris Co Uninstalled															
OFFLINE	E_Chmpn_First_Dr_NBR (6259)														0%
OFFLINE	E_Chmpn_First_Dr_SBL-old (6260)														0%
OFFLINE	HC_Beacon_15212 (15212)														0%
OFFLINE	HC_Beacon_15213 (15213)														0%
OFFLINE	HC_Beacon_15214 (15214)														0%
OFFLINE	HC_Beacon_15215 (15215)														0%
OFFLINE	HC_Beacon_15218 (15218)														0%
OFFLINE	HC_Beacon_15219 (15219)														0%
OFFLINE	HC_Beacon_15220 (15220)														0%
OFFLINE	McCabe RD EB_Old (3516)														0%
Aldine ISD: Blanson CTE High															
ONLINE	H_West_Rd_EBL (9660)	12.60	13.58	GOOD	0.00	21.71	GOOD								98%
ONLINE	H_West_Rd_EBR (9796)	12.64	13.60	GOOD	0.00	21.19	GOOD								98%
ONLINE	H_West_Rd_WBL (9663)	12.69	13.68	GOOD	0.00	21.76	GOOD								100%
ONLINE	H_West_Rd_WBR (9662)	12.73	13.73	GOOD	0.03	21.82	GOOD								100%
Aldine ISD: Carroll Acad															
ONLINE	A_W_Gulf_Bank_Rd_EB (5837)	12.59	13.60	GOOD	0.02	20.40	GOOD								100%
ONLINE	A_W_Gulf_Bank_Rd_WB (5838)	12.44	13.76	GOOD	0.04	21.32	GOOD								100%
Aldine ISD: Conley Elem															
ONLINE	E_W_Greens_Rd_WBR (5994)							120.84	126.39	GOOD	14.40	14.46			100%
ONLINE	E_West_Greens_Rd_EB (5991)							122.40	126.39	GOOD	14.42	14.49			100%
ONLINE	E_Drucker_Dr_SB (5990)	12.53	13.72	GOOD	0.00	19.86	GOOD								100%
ONLINE	E_W_Greens_Rd_WB2 (5992)	12.51	13.75	GOOD	0.00	18.97	GOOD								100%
ONLINE	E_W_Greens_Rd_WBL (11362)	12.60	13.66	GOOD	0.03	20.95	GOOD								100%

Figure 42: Beacon Health Report Example

Graph Comparison: In addition, the system has advanced reporting capabilities to display graph comparisons between different devices as well as beacon status reports. By having the graphs in a comparable format, it makes it easier to see which batteries are healthy, or are in need of attention/replacing. As an example, the Solar Battery Voltage Report given in the figure below shows the Solar Battery Voltage graphs for each of the installed solar school beacon units. They are laid out next to one another for easy comparison.

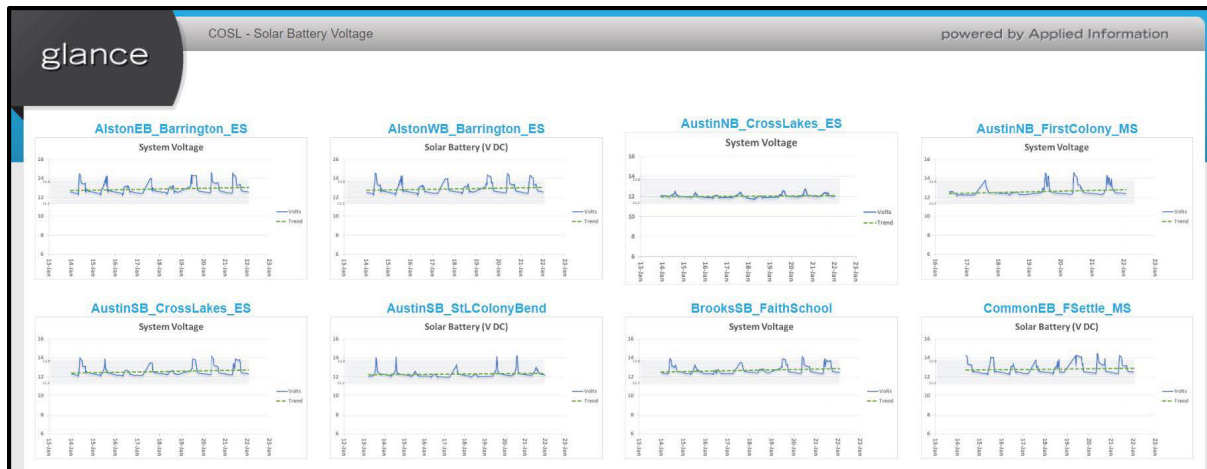


Figure 43: Solar Battery Voltage Graph Comparison

Glance Advanced Alarm and Alerts Capability:

With 24/7 monitoring of the Glance School Beacon Monitoring System, Glance is able to register if one/more of the school beacons is experiencing a fault, such as loss of power or system failure. As soon as a problem is detected, an automated alert notification is sent via email/text to notify the necessary personnel of the exact fault. This alert includes details of the detected fault, the device that is experiencing the fault, and the location of the installed device. This spares maintenance personnel time and resources, as they already know what needs to be fixed and what tools to take with them in order to fix the school beacon flasher. Once the problem is resolved, a confirmation message is sent out. This consistent monitoring and alerting capability additionally eliminates the need for scheduled maintenance, and saves city traffic maintenance personnel from having to physically driving out to school beacons to manually check on the status of the flashers and inspect the school beacon flasher. In addition to automatic alerts, Glance provides a real-time fault alert system that can be found on the Home Screen.

Real-Time Fault Status: The figure below illustrates the Glance Home Screen for a Glance School Beacon Monitoring System. From this page, there are two ways in which to see the real-time status of school beacons that are experiencing faults in the field.

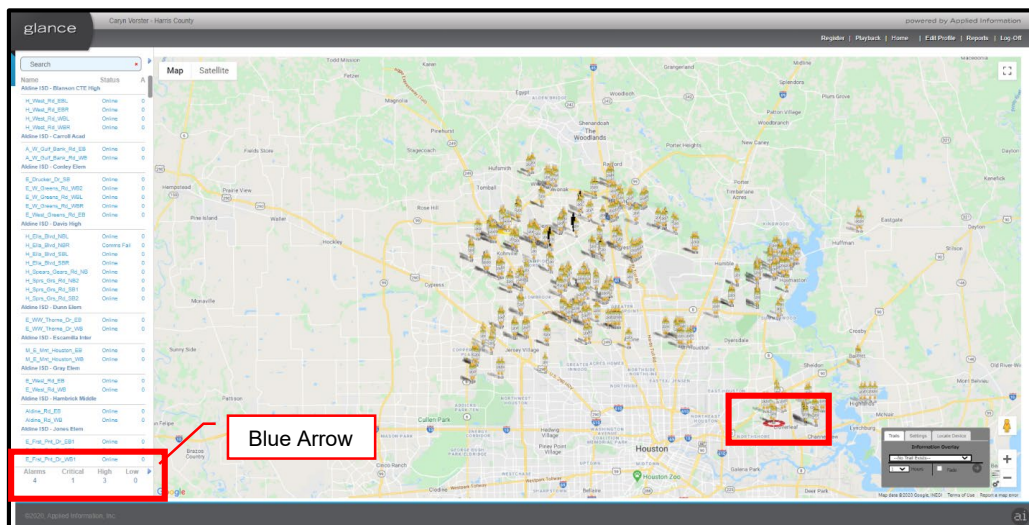


Figure 44: Glance Home Screen – Real-Time Fault Status Highlighted

The first option is a summary of all failures that have been detected for this system, which can be found on the bottom left side of the screen as indicated in the figure above. These are categorized as Critical/High/Low priorities. Clicking on the blue arrow will bring up details of each fault experienced as seen in the figure below (left). This provides the device name, time of fault, and the fault experienced. For example, in this scenario, there is a critical alarm for *E_Uvalde_St_NB*, which was recorded on 5/28/2020 at 12:17:45AM and it reported a “BOTH LAMP OUT” failure.

Alarm Details	Time	Details
■ E_Uvalde_St_NB	5/28/2020 12:17:45 AM	E_Uvalde_St_NB: reported BOTH LAMPS OUT Harris County. (3)
■ E_Uvalde_St_NB	5/28/2020 12:17:44 AM	E_Uvalde_St_NB: reported ONE LAMP OUT Harris County. (3)
■ E_Lacey_Rd_WB	7/9/2020 6:39:47 PM	E_Lacey_Rd_WB: reported ONE LAMP OUT Harris County. (2)

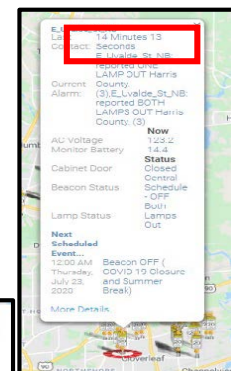


Figure 45: Real-Time Failure Summary

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The second option is a visual cue where faulty beacons are surrounded by either red or yellow rings on the Glance Home Screen, such that City operators can easily identify which beacons should be attended to. Clicking on the faulty beacon icon will bring up a device overview pop-up as seen in the figure above (right), where further details on the failure-type can be seen. A red ring around a beacon indicates critical failure of one of the beacon’s components, whereas a yellow ring indicates a non-critical fault. Additionally, if the beacon icon on the Glance Home Screen changes color to black only, this is indicative that the beacon is offline / experiencing a communication failure.

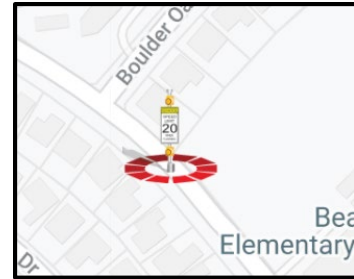


Figure 46: Red Ring Around a Faulty Beacon

Email and Text Alerts: As soon as a problem is detected by Glance, an email or text will automatically be sent to the respective personnel who receive these alerts. The Glance platform is able to facilitate alerting all necessary personnel of a fault that occurs in the field. Exact details of the time of the fault, the type of fault experienced, location of the beacon and the name of the beacon is sent via text or email. Examples of email and text alerts are given alongside and below.

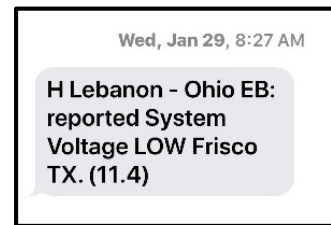


Figure 47: Example of Text Alert

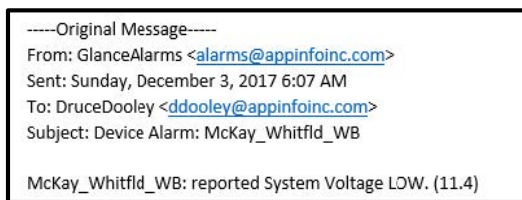


Figure 48: Examples of Email Alerts

All current active alarms are accessible for view in the Glance platform. In addition, an Alarm Log can be generated to provides details on the priority of the alarm, device name, time and date the alarm was first recorded, the time and date the fault was rectified and a description of the fault experienced.

Priority	Device	Alarm Active	Alarm Closed	Description
High	M_Antoine_Dr_NBL	7/31/2020 7:22:16 AM	---	M_Antoine_Dr_NBL: reported System Voltage LOW Harris County. (11.333)
High	E_Winding_Ridge_Dr_S	7/31/2020 1:40:31 AM	---	E_Winding_Ridge_Dr_S: reported System Voltage LOW Harris County. (11.366)
Medium	E_Uvalde_St_NB	7/30/2020 8:27:38 PM	---	E_Uvalde_St_NB: reported ONE LAMP OUT Harris County. (3)
Medium	E_Uvalde_St_NB	7/30/2020 8:27:38 PM	---	E_Uvalde_St_NB: reported BOTH LAMPS OUT Harris County. (3)
Medium	E_Wood_Dr_WB	7/30/2020 5:56:47 PM	7/30/2020 6:00:29 PM	E_Wood_Dr_WB: reported ONE LAMP OUT Harris County. (2)
Medium	6_Uvalde_St_NB	7/30/2020 4:11:32 PM	7/30/2020 4:13:54 PM	6_Uvalde_St_NB: reported ONE LAMP OUT Harris County. (2)
High	E_Winding_Ridge_Dr_S	7/30/2020 2:10:25 AM	7/30/2020 4:07:37 PM	E_Winding_Ridge_Dr_S: reported System Voltage LOW Harris County. (11.322)

Figure 49: Example of Alarms Log

WARRANTY INFORMATION:

Product Warranty:

Included in the purchase of Applied Information devices is a once-off license fee, and a connectivity and support plan. Within this plan, a full warranty is in effect.

The AI-500-070 School Beacon Timer Switch and Cellular Modem is provided with the option of a 1-year, 3-year, 5-year, or 10-year connectivity and support plan. For as long as the AI branded equipment is part of an active connectivity and support plan, the system components are fully covered for warranty repair, software and firmware updates, and telephone support at no additional cost.

Period of warranty and purchased connectivity and support plan (5-year or 10-year) begin from the date of purchase from Applied Information. In the event of a need for repair, Applied Information will repair or replace the product and return it to the customer free of charge. This includes all matter causes; whether it be severe weather damage, impact from a vehicle, or the rare event of defective materials used in the unit construction or faulty workmanship. These benefits are perpetually available, provided that the purchased connectivity and support plan is still active.

Connectivity and Support Plan:

The Connectivity and Support Plan for Applied Information devices includes the following:

- **Cellular Connectivity** - All devices are equipped with a built-in cellular modem, allowing for cellular communication between the in-field device, Glance, and TravelSafely.
- **Upgrade of Cellular Modem** - Currently all in-field devices operate on the 4G LTE network. If/when this is no longer supported, the AI will upgrade the cellular modems. Hardware required for cellular communication upgrades will be provided free-of-charge, where Applied Information will provide the County with the 5G modem and associated antenna required.
- **Telephone and Email Support** - AI is able to provide support via telephone and email: 678.830.2170, support@appinfoinc.com
- **No Cellular Overage Charges** - With this connectivity plan in place, there will be no overage charges regardless of the amount of data used.
- **Extended Warranty of Hardware** - For the period of the implemented Connectivity and Service Plan, an extended warranty on the hardware is provided with a “no questions asked” policy.
- **Over-the-air Software Updates** - All in-field hardware supports over-the-air software updates. Software updates are sent to the cabinet unit or mobile device via the cellular network. Devices can consistently be kept up-to-date with the new releases/versions of software.
- **Over-the-air Security Updates** - All in-field hardware supports over-the-air security updates. Software updates are sent to the cabinet unit or mobile device via the cellular network. Devices can consistently be kept up-to-date with the latest security available.

Training Materials:

Classroom Training: The Team is able to provide classroom training at their facilities in Atlanta, GA, or at a location provided by the County. In the classroom training session, attendees are provided with training manuals and an installation practice rig, specifically designed for school beacon unit installation and commissioning practice. The training manual provides step-by-step guides on how to install, configure and maintain system hardware. The practice rig is designed to provide a hands-on experience, where trainees are able to practice system setup. In this way, attendees are able to run through the motion of fully completing installation and configuration of the units. At the end of the training session, the trainee should understand all product capabilities of the school beacon unit, and be ready to successfully install units in the field.

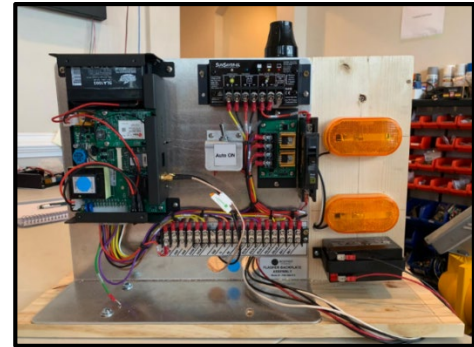


Figure 50: Practice Rig

Access to the iATL: Applied Information is able to provide the City of Raleigh with exclusive access to the iATL (Infrastructure Automotive Technology Laboratory). The iATL serves as an engineering technical facility for testing the functionality and performance of connected vehicle applications, including virtual TSP, between the transportation infrastructure, motor vehicles, and other road users. The iATL laboratory additionally doubles as a training facility, where members of the County are able to partake in system training offered by AI staff members. This training center is fully equipped with an advanced live-streaming setup as well as all the required demonstration devices. Applied Information has previously performed a number of product demonstrations out of the iATL, as well as a number of training webinars. Applied Information's YouTube channel is home to a number of previous webinars and training sessions held at the iATL.

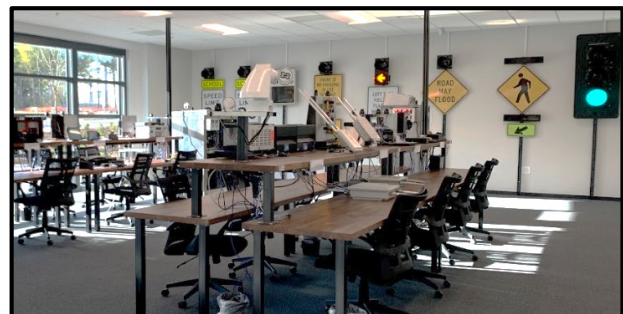


Figure 51: Inside the iATL

- Further information on the iATL can be found here: <https://theiatl.com/> .
- Applied Information YouTube Channel can be accessed here: https://www.youtube.com/channel/UCoVWWKd_I_bb0RzDlwO88w



Figure 52: School Beacon Testing and Demonstration Equipment at the iATL



Figure 53: Previous School Beacon Demonstrations at the iATL

Online Training Platform: Applied Information has an online video learning academy, which is available to end users. This platform has a number of video resources, relevant written training material, practice questions, and test questions available at the end of the training session. Training channels are available to target user groups, such as field technicians – learning how to install, commission and maintain the system, preemption/priority drivers, making the most out of Glance and the advanced reporting capabilities and more.

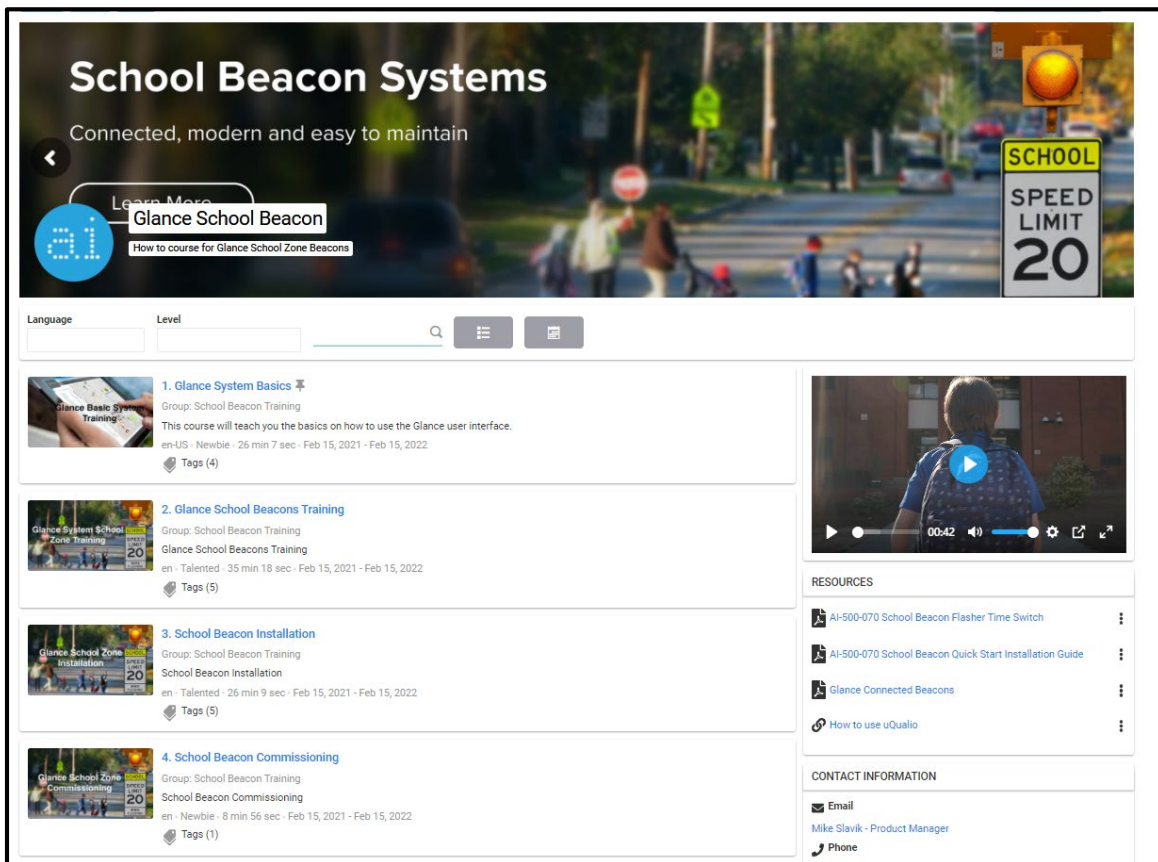


Figure 54: Example of School Beacon System Channel Available on the AI's Video Learning Academy

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Resources Available: Applied Information is able to provide a number of training resources to the County. This includes training packs consisting of Install Guides, Glance User Guides, Troubleshooting Guides, and Recommended Best Practices. Training documents are available in both PDF and print-out versions. Additionally, each in-field unit is shipped with a Quick Start Installation Guide which includes information on what is needed before getting started, list of what is provided, installation instructions, commissioning procedure, install checklist, wiring diagram, and I/O allocation information. These guides assist the installer with the installation, configuration, testing and commissioning procedures.

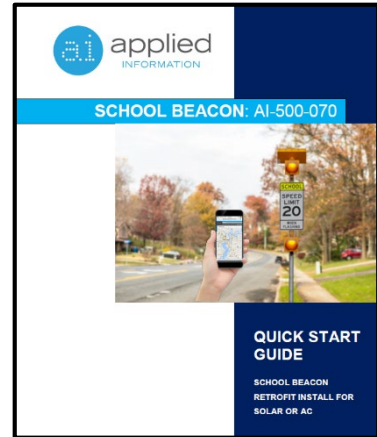


Figure 55: Examples of Installation Guides Shipped AI Hardware

Training Webinars: Applied Information has a number of resources available online, including system training webinars which are run on a regular basis. Past webinars, which include in-depth system training, are available for review on an as-needed basis. Subscription to the online webinars is available to anyone in the County who wishes to further partake in online training.

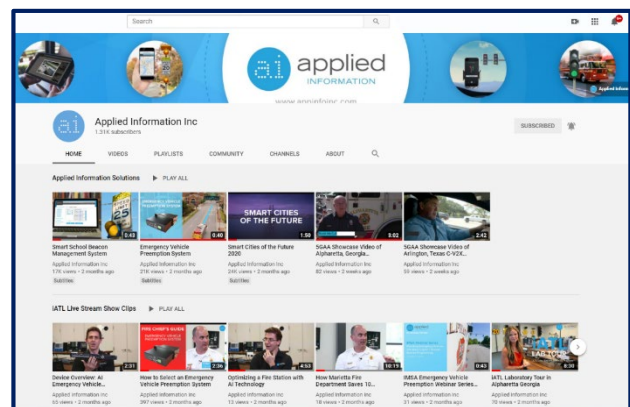


Figure 56: Applied Information's YouTube Channel with Past Webinars and Informational Videos

PREVIOUS PROJECT EXPERIENCE:

Details of previous project installs of the Glance School Beacon Monitoring System can be seen below:

Gwinnett County, GA: Currently, there are (270) AI-500-070 school beacons installed throughout the county. Georgia's Gwinnett County is currently using the connected school beacons to manage the school zone traffic in its communities. Gwinnett County Public Schools (GCPS) is the largest school system in Georgia, with (139) schools.

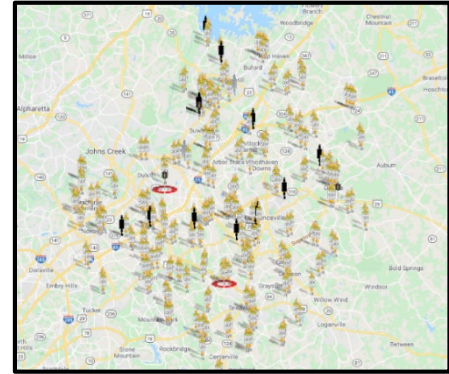


Figure 57: Gwinnett County

City of Frisco, TX: Purchased (180) AI-500-070 School Beacon Flasher Timers. The first (60) of these units were procured off Buyboard and were installed by City of Frisco Personnel. This initial install was so efficient, and the product performed so well that budget allocated over a three-year period was moved up so that the City could purchase and install more units. Within a 12-month period, the City built out their entire school beacon system. To-date, a total of (180) school beacon units have been installed throughout the City.

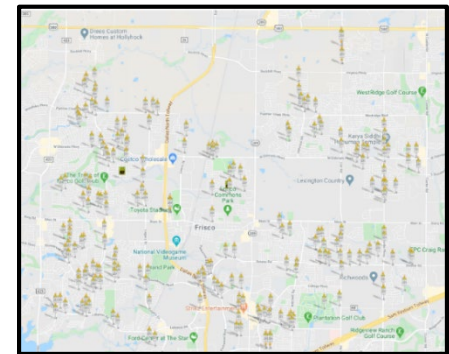


Figure 58: City of Frisco, TX

Harris County, TX: Has over (500) AI-500-070 School Beacon Flasher Timers deployed and controlling school flasher locations throughout the County. The installed units are used to control daily flash operations and monitors the health status of each unit. These units are also transitioning into Connected Vehicle locations to further the safety aspects by being able to notify smartphone users with the TravelSafely app about safety message in and around school zones (including alerts when entering an active school zone or notification when speeding in an active school zone).

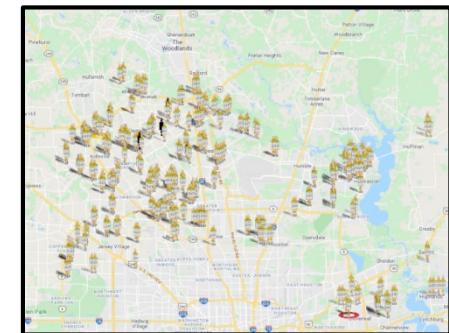


Figure 59: Harris County, TX

Georgia Department of Transportation, GA: GDOT deployed (750) AI-500-070 School Beacon Flasher Timers to improve safety on highways near schools statewide. The technology was installed at more than (350) schools in (127) Georgia Counties.

Missouri City, TX: Missouri City upgraded their school zone system with (30) AI-500-070 School Beacon Flasher Timers. Majority of these devices were for solar (DC) powered assemblies with the old-time clocks. The new devices were retrofitted into existing cabinet assemblies. When Missouri City was asked to give an outside opinion on their AI-500-070 School Beacon Flasher Timers to a traffic signal technician from another state, the following response was given by Kevin Cummings, Traffic Systems Manager, Missouri City, TX:

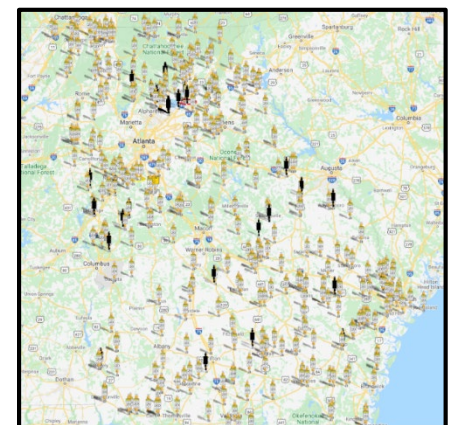


Figure 60: GDOT Beacons

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“The A.I. equipment is great! We love the system and the Glance software is very informative and easy to use. You get all your voltages and know when your flashers are blinking in real time through the cellular modem. We originally purchased the 5-year communication and just renewed our cellular service. Cell modems are super reliable and don’t miss a beat. We used to hand enter each of our previous clocks with a bucket truck before every school year and it would take about three weeks. Now I can enter my schedules and holidays within 10 minutes from my office. You can’t beat it. If you have a faulty battery or solar panel you will be able to see that from the software so you know what to troubleshoot in the field before leaving the shop. The folks at Applied Information are always dependable and easy to work with too, great customer service. Once you get the clocks installed you’re not going to look back and wish you would have done so earlier.”

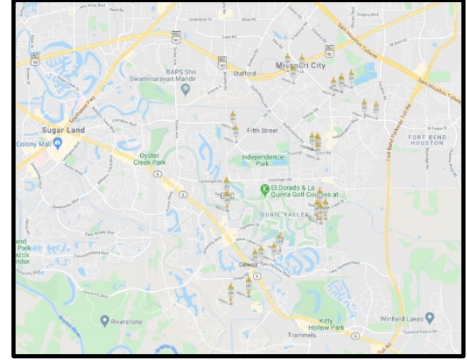


Figure 61: Missouri City, TX

VALUE-ADD:

KNOCKDOWN DETECTION:

Knockdowns are an important issue that can be difficult to diagnose in a timely manner. For instance, suppose that a school zone beacon is knocked down in the middle of the night due to wind or vandalism. Such issues can remain unknown to the county for extended periods of time. Applied Information Team is able to offer a knockdown detection sensor as an additional add-on to further enhance the Glance School Beacon Monitoring System. The knockdown detection sensor monitors for any sudden or unexpected changes in orientation. If the unit experiences a greater than 10-degree change in orientation that persists for more than 30 seconds, the system sends an alert via the Glance platform to notify the necessary personnel of the knockdown incident.

Features of the knockdown detection device include:

- Self-calibrating on power up
- Detects knockdown in any direction
- Small form factor
- Low power consumption
- Email, text, and Glance alerts

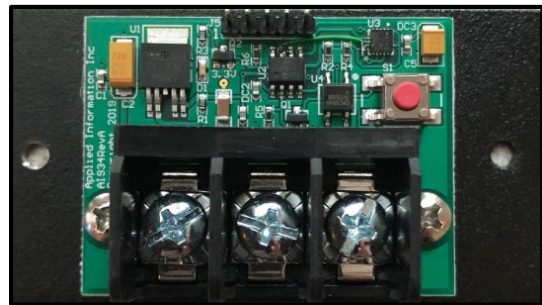


Figure 62: Knockdown Detection Sensor

TRAVELSAFELY:

The installation of a Glance School Beacon Monitoring System opens the door to broader smart city solutions. Included in the installation of the AI-500-070 school beacon units is the connected vehicle application TravelSafely.

What is TravelSafely? TravelSafely is the human machine interface used to support the broadcasting of audible and visual connected vehicle alerts. The handheld device that receives and transmits data, providing the user with road safety information, is in the form of a smartphone device running the TravelSafely application. The app is available for free download from respective application stores (Apple or Android). All communication is routed over the cellular network. Field units actively convert data from traffic infrastructure equipped with Applied Information devices, such as connected school beacons, into readable information (i.e., standard SAE J2735 format), which the smartphone receives, processes, and displays on its interface.

TravelSafely in School Zones: Despite school beacon flashers, with accurate flasher scheduling, being deployed on the roadside, some vehicles still speed in school zones when the beacons are on. This can be due to distracted driving, or not “seeing” the school beacon due to obscuring foliage, vehicles, or bad weather. In any case, the danger of a speeding in school zones remains. Connected vehicle technology allows the TravelSafely application to receive messages from the school beacon, which includes the status of the signal and the reduced speed limit.



Figure 63: TravelSafely in a School Zone

- ❖ **Entering a School Zone:** An alert will be provided to the driver if they are entering an active school zone. The speed limit of the active school zone will also be displayed on the screen of the smartphone.

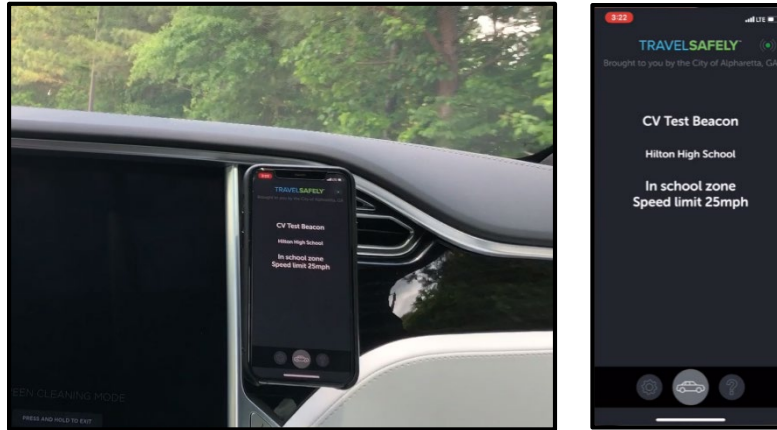


Figure 64: TravelSafe Alert Notifying the Driver that they have entered a School Zone with a Speed Limit of 25mph

- ❖ **Speeding in School Zone Alert:** If the vehicle is driving 5mph above the speed limit an audible alert will warn the motorist that they are traveling too fast in an active school zone.

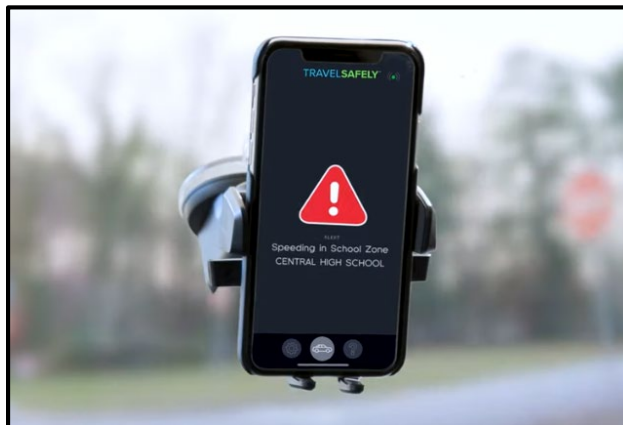


Figure 66: TravelSafe Alert Notifying the Driver that they are Speeding in a School Zone



Figure 65: TravelSafe "Speeding in School Zone" Warning Displayed on Ford SYNC3 Dashboard

TravelSafe in Ford Vehicles: Ford is on-board with the shift to connected vehicle technology. Currently, all Ford vehicles equipped with Ford SYNC 3 technology are able to display TravelSafe information on the car dashboard, as it would be displayed on the TravelSafe smartphone application. An example of this can be seen in the figure above.

THE FUTURE OF CONNECTED VEHICLES IN SCHOOL ZONES:

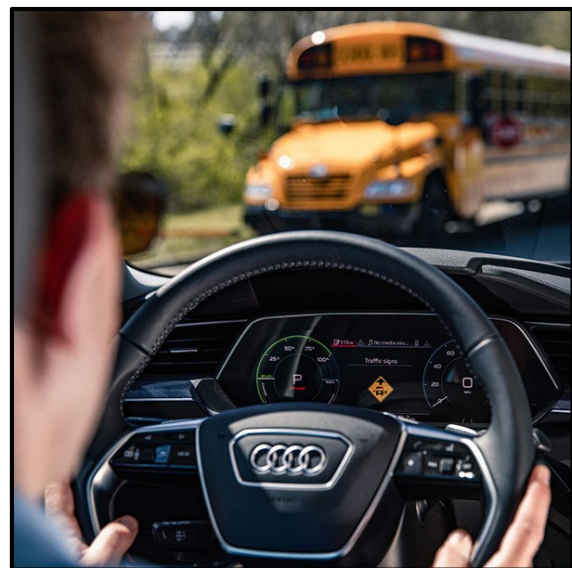
Applied Information Inc. in partnership with Audi, Blue Bird Corp., the City of Alpharetta, Fulton County Schools, and Temple Inc. have joined forces to develop next-generation connected vehicle applications designed to improve safety in school zones and around school buses when children are present. This first-of-its-kind collaboration is aimed at developing and demonstrating cellular vehicle-to-everything (C-V2X) technologies that can communicate safety messages to vehicles around school buses and in active school zones. Deployment of this cutting-edge technology is aimed to assist in reducing the vehicle and roadway hazards that school children face each year, with the end goal of providing safety benefits to children travelling to and from school. This C-V2X technology has been tested using a Blue Bird Propane-powered school bus and a 2021 Audi e-tron Sportback electric SUV, where two applications are currently being tested.



Application 1: Warning drivers when entering an active school zone and exceeding the speed limit when children are present. When active, roadside units (RSU) installed in school zone safety beacons — flashing signs that are intended to slow drivers down as they pass by a school — will broadcast messages to vehicles indicating location of the school and the reduced speed limit.



Application 2: Warning drivers when approaching a school bus stopped to pick up or drop off students. Onboard units (OBU) will broadcast C-V2X safety messages from school buses to C-V2X-equipped vehicles when the bus stop arm is extended to indicate no passing is allowed.



For more information, see:

- <https://appinfoinc.com/blue-bird-connected-vehicle-school-bus-safety/>
- <https://youtu.be/-E4S8yRkdq4>

Figure 67: Partnership with Audi, Blue Bird Corp. and Fulton County Schools

BENEFITS OF THE CONNECTED SCHOOL BEACON SYSTEM:

The solution provided is a unique, innovative solution which has a number of tangible benefits. A brief description of each of these benefits can be seen as follows:

- **IMPROVED SAFETY:** The Glance School Beacon Monitoring System promotes public safety by making sure that school beacon flashers are correctly scheduled, monitored and effectively maintained. This ensures that motorists driving within school zones are aware of school schedules and when to expect school children activity. Drivers know exactly when to drive at the slower speed limit within the school zone and are alerted when traveling over the designated speed limit while the flashers are active.
- **IMPROVED SYSTEM RELIABILITY:** With the Glance School Beacon Monitoring System, motorists can trust that schedules are updated for holidays, inclement weather, early release or any number of non-standard days. Also, beacons experiencing issues are diagnosed and repaired much faster. These collective improvements make the system much more reliable for motorists and city/county managers.
- **REDUCED MAINTENANCE COSTS:** Cities that install the Glance School Beacon Monitoring System see a decrease in the number of physical trips made by city/county maintenance to school flashers in order to manually test / monitor school beacon flashers.
- **REDUCED COMPLAINTS:** When a beacon system is reliable, naturally a drop in complaints about the beacons not working will be seen. As an example, Tom Sever, from the Gwinnett County DOT, stated, "The beacons from the Applied Information team have modernized the county's school zone flashing beacon system. The result has been a 90% reduction in the number of calls related to the operation of school zone beacons due to improved communication with each beacon."
- **INCREASED ECONOMIC DEVELOPMENT:** A major factor that influences the location choice of businesses and residency is whether there are good schools in the area. Safe schools are a pull for people seeking to relocate or invest in businesses in the city/county.
- **NO SCHEDULING COSTS:** With wireless connectivity, there is no need to send staff to manually configure each beacon over summer break. Scheduling for the entire beacon system can be completed in a matter of minutes as compared to several weeks.
- **REMOTE SUPPORT:** Because the system features internet connectivity, the Applied Information team is able to remotely log in and diagnose issues with the school beacons. The support team is on-hand to view and correct connectivity and data reporting issues. Remote support is a faster, more efficient way of keeping the beacons up and running.
- **OVER-THE-AIR UPDATES:** Over-the-air software and feature updates are also included in the Connectivity and Support Plans. Applied information is continuously developing new features and uses for the tools, and with an active plan, each beacon receives updates free of charge. By leveraging over-the-air updates, it is possible to "future-proof" the system by ensuring that is updated with the latest features and tightest security.
- **CHANGING MULTIPLE BEACON SCHEDULES REMOTELY:**
The Glance School Beacon Monitoring System allows the user to switch individual, groups, or all school beacon flashers in the system to ON, OFF, or to SCHEDULE. Schedule changes and updates can be created, changed, and updated remotely. With this system, it is possible to update the schedules of a multitude of beacons without the need of physically going in to the field.

PRICING:

Applied Information provides an equivalent solution to the requested School Zone Flashing Beacon Remote Operation Equipment.

The proposed **Glance School Beacon Monitoring System** field device provides a compact, all-in-one solution where, unlike other existing systems, the proposed equivalent system will not need separate circuit board, mounting bracket, cellular modem, or other peripheral devices. All required hardware is built-in to the “**AI-500-070 School Beacon Timer Switch with Cellular Modem**”. The AI-500-070 device is able to operate in either an AC or DC environment without the need to purchase additional equipment to augment the system. Each equivalent unit is equipped with a built-in 4G LTE modem for fast and reliable cellular communication with the central server. Each equivalent unit is also shipped with the necessary hardware to complete the installation, including antenna, wiring harness, and mounting brackets. 5-year communication plan is also included under the purchased Connectivity and Support plan, which provides the County with unlimited cellular connectivity within the duration of the purchased plan. Applied Information is additionally able to provide 1-year, 3-year, 5-year, or 10-year Connectivity and Support Plans. Under the Connectivity and Support Plan, the County will also be provided with on-site installation assistance, free cellular modem upgrades, software/security over-the-air updates, and telephonic support.

Table 1: Pricing

ITEM:	EQUIVALENT INFORMATION:	PRICE (USD):
Remote Operation Beacon Upgrade Bundle 1:	53 x AI-500-070 Flasher Units 53 x Knock-down Sensors 53 x Glance Configuration and License 53 x 5-year Connectivity and Support Plan (incl. full warranty) Installation Assistance and Support	\$ 100,839.04
Remote Operation Beacon Upgrade Bundle 2:	53 x AI-500-070 Flasher Units 53 x Knock-down Sensors 53 x Glance Configuration and License 53 x 5-year Connectivity and Support Plan (incl. full warranty) Installation Assistance and Support	\$ 100,839.04
Remote Operation Beacon Upgrade Bundle 3:	53 x AI-500-070 Flasher Units 53 x Knock-down Sensors 53 x Glance Configuration and License 53 x 5-year Connectivity and Support Plan (incl. full warranty) Installation Assistance and Support	\$ 100,839.04
RTC AP22 Time Switch or equivalent	Providing equivalent AI-500-070 Timer Switch with Cellular Modem (incl. configuration and licensing) <i>(Single unit pricing)</i>	\$ 895.00
RTC Guardian Circuit Board or equivalent	N/C – no separate purchase necessary Equivalent included in purchase of AI-500-070, which comes standard with built-in circuit board.	N/C

ITEM:	EQUIVALENT INFORMATION:	PRICE (USD):
RTC Guardian Circuit Board w/mounting bracket or equivalent	N/C – no separate purchase necessary Equivalent included in purchase of AI-500-070, which comes standard with built-in circuit board and mounting bracket.	N/C
RTC Guardian Circuit Board w/mounting bracket and solar regulator or equivalent	N/C – no separate purchase necessary Equivalent included in purchase of AI-500-070, which comes standard with built-in circuit board and mounting bracket, and solar regulator. (AI-500-070 is suitable for both AC and DC power)	N/C
RTC M2M Cellular Modem or equivalent	N/C – no separate purchase necessary Equivalent included in purchase of AI-500-070, which comes standard with built-in cellular modem	N/C
RTC M2M Cellular Modem with included 1-year communication plan or equivalent	Providing equivalent AI-500-070 Timer Switch with built-in Cellular Modem, incl. Glance Configuration and License with 1-year Connectivity and Support Plan with full warranty (communication plan equivalent)	\$ 1,075.00
RTC M2M Cellular Modem with included 3-year communication plan or equivalent	Providing equivalent AI-500-070 Timer Switch with built-in Cellular Modem, incl. Glance Configuration and License with 3-year Connectivity and Support Plan with full warranty (communication plan equivalent)	\$ 1,413.66
RTC M2M Cellular Modem with included 5-year communication plan or equivalent	Providing equivalent AI-500-070 Timer Switch with built-in Cellular Modem, incl. Glance Configuration and License with 5-year Connectivity and Support Plan with full warranty (communication plan equivalent)	\$ 1,711.68
RTC M2M Cellular Modem with included 10-year communication plan or equivalent	Providing equivalent AI-500-070 Timer Switch with built-in Cellular Modem, incl. Glance Configuration and License with 10-year Connectivity and Support Plan with full warranty (communication plan equivalent)	\$ 2,098.45

APPENDIX A: INSURANCE

Applied Information meets insurance requirements, as outlined in Bid #45-2021 School Zone Flashing Beacon outline. The following pages show Applied Information's:

1. Certificate of Insurance (for viewing purposes) – which indicates insurance limits
2. Liability Limits

Declarations

**Chubb Group of Insurance Companies
202B Hall's Mill Road
Whitehouse Station, NJ 08889**

Named Insured and Mailing Address

APPLIED INFORMATION INC.
4411 SUWANEE DAM RD, SUITE#510
SUWANEE, GA 30024

Policy Number 3604-57-65 ECE

Effective Date NOVEMBER 1, 2020

*Issued by the stock insurance company
indicated below, herein called the company.*

**GREAT NORTHERN
INSURANCE COMPANY**

Producer No. 0017098-99999

*Incorporated under the laws of
INDIANA*

Producer: EDGEWOOD PARTNERS INSURANCE CENTER
2405 SATELLITE BLVD #200
DULUTH, GA 30096-0000

Policy Period

From: NOVEMBER 1, 2020 To: NOVEMBER 1, 2021
12:01 A.M. standard time at the Named Insured's mailing address shown above.

Liability Coverage

Limit Of Insurance

GENERAL LIABILITY

GENERAL AGGREGATE LIMIT	\$ 2,000,000
PRODUCTS/COMPLETED OPERATIONS AGGREGATE LIMIT	\$ 2,000,000
EACH OCCURRENCE LIMIT	\$1,000,000
ADVERTISING INJURY AND PERSONAL INJURY AGGREGATE LIMIT	\$ 1,000,000
DAMAGE TO PREMISES RENTED TO YOU LIMIT	\$ 1,000,000
MEDICAL EXPENSES LIMIT	\$ 10,000

RATING INFORMATION