Request for Proposals

To Design, Construct and Integrate ITS Devices

For Houston's Intelligent Transportation System (HITS)

Through A Design-Build Agreement

City of Houston

Addendum 1 - Date Issued 4/29/16

Table of Contents

A. GENERAL INFORMATION 4
A.1. PURPOSE 4
A.2. PROJECT DOCUMENTS 4
A.3. GENERAL PROJECT DESCRIPTION 4
A.4. PROJECT WEBPAGE 5
A.5. PROJECT CONTRACT (DBA) DOC. AND FHWA REQUIREMENTS / EXHIBITS 5
A.6. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) 6
A.7. DBE REQUIREMENT 6
A.8. LIABILITY, BONDS AND INSURANCE 6
A.9. FEDERAL REQUIREMENTS 6
A.10. PUBLIC INFORMATION ACT (DISCLOSURE WAIVER) 7
A.11. WARRANTY 7
A.12. MAINTENANCE 7
A.12.a. Response Maintenance 8
A.12.b. Emergency Maintenance 8
A.12.c. Preventative Maintenance 8
A.12.d. Maintenance Documentation 9
A.12.e. Qualified Personnel 9
A.13. SPARE PARTS 9
A.14. PROJECT MILESTONE DATES 9

B. PROCUREMENT PROCESS 10
B.1. PROCUREMENT METHOD 10
B.2. PROCUREMENT SCHEDULE 10
B.3. PRE-PROPOSAL MEETINGS 11
B.3.a. Informational Meetings 11
B.3.b. One-on-One Meetings 11
B.3.c. Statements at Meetings 12
B.4. SYSTEMS REQUIREMTNS REVIEW 12
B.5. INDUSTRY REVIEW 12
B.6. QUESTIONS AND CLARIFICATIONS 12
B.7. ADDENDA 12
B.8. COMMUNICATIONS 13
B.9. PROTEST PROCEDURES 13
B.10. DEBRIEFINGS 14
B.11. CONFLICT OF INTEREST 14
B.12. THE CITY OF HOUSTON RESERVED RIGHTS 14
B.13. OBSERVERS DURING EVALUATION 14
B.14. EXAMINATION OF RFP 15
B.15. CHANGES IN PROPOSER'S ORGANIZATION 15

C. SUBMISSION REQUIREMENTS AND EVALUATION 16
C.1. SUBMITTING PROPOSAL 16
C.2. PROPOSAL CONTENT 17
C.3. PROPOSAL FORMAT 17
C.4. EXECUTIVE SUMMARY 18
C.5. PROPOSAL EVALUATION CRITERIA 18
C.5.a. Technical Proposal 19
C.5.a.1. Project Development Plan 19
C.5.a.1.a Technical Solutions 20
C.5.a.1.b Preliminary Project Management Plan 20
C.5.a.1.c Preliminary Systems Engineering Plan 21

Table of Contents (Continued)

C.5.a.1.d Design-Build Management 22
C.5.a.1.e Preliminary Quality Management Plan 22
C.5.a.2. Evaluation Guidelines for Project Development Plan 23
C.5.a.2.a. Qualitative Rating 23
C.5.a.2.b. Technical Score 24
C.5.b. Price Proposal 24
C.5.b.1. Detailed Price Proposal 24
C.5.b.2. Price Proposal Evaluation 25
C.5.c. Presentation / Interview 27
C.5.d. References 27
C.5.e. Best Value Score 28

D. PRELIMINARY PROJECT SCOPE OF SERVICES 29

A. GENERAL INFORMATION

A.1. PURPOSE

The Traffic Operations Division (TOD) of the City of Houston, Public Works & Engineering Department is seeking competitive detailed Proposals (individually, a "Proposal" and collectively, "Proposals") from design-build teams ("Proposers") interested in pursuing a Design-Build Agreement (DBA). The DBA shall provide that the entity identified in the successful Proposal ("Developer") shall develop, design, construct and integrate the Houston Intelligent Transportation Systems (HITS) Project ("Project").

As used in this procurement, the term Proposal means a Proposer's complete response to the Request For Proposals (RFP). The City of Houston is issuing the RFP to those Proposers shortlisted for the Project based on the City of Houston's evaluation of the Statement of Qualifications (SOQ) delivered to the City of Houston on November 3, 2015, in response to the Request for Qualifications (RFQ) for the Project issued on October 2, 2015. The City of Houston will only review and score Proposals from teams shortlisted on the Project webpage (https://www.publicworks.houstontx.gov/tod/tiger-2014.html).

It is the City of Houston's intent to retain a highly qualified design-build team with extensive experience in the field of systems engineering, design, construction and integration of comparable ITS projects. The City of Houston considers a comparable project to be any ITS project of similar size, scope, value and complexity, whether or not such a project was delivered through a DBA or otherwise.

Proposers are requested to carefully review the contents of this document and submit a Proposal in accordance with the instructions provided as the selected team will be required to comply with its requirements. It is understood that the contracting agency is the City of Houston.

A.2. PROJECT DOCUMENTS

The Proposals shall adhere to all information detailed in the following HITS documents:

- TIGER 2014 Grant Application;
- RFQ;
- System Requirements;
- Concept of Operations (ConOps);
- RFP.

The above listed documents will become part of the DBA. These documents are a roadmap for the Project scope and budget. The Proposer's Proposal shall take into consideration all the information provided within these documents in drafting their Proposal.

A.3. GENERAL PROJECT DESCRIPTION

This Project will deploy the following ITS devices:

- 91 arterial DMS
- 113 CCTV cameras
- 144 mid-block traffic count stations

- 489 enhanced signal detection locations
- 235 WiMAX

The Project will also deploy all hardware and software necessary to deliver a fully operational system as described in the project documents (section A.2).

The City of Houston's central traffic management software system (Trafficware – ATMS.now) shall be used for HITS and shall be modified as necessary to meet Project system requirements. All shortlisted teams shall coordinate with the manufacturer to develop a Proposal meeting these requirements.

A.4. PROJECT WEBPAGE

For all Project related information and communications (TIGER 2014 application, RFP, addendum, short listed Proposers, etc.) see the Project webpage at:

http://www.publicworks.houstontx.gov/tod/tiger-2014.html

It is the responsibility of the Proposer to monitor the Project webpage for ALL Project related information and updates including any addenda. The Proposer is required to acknowledge, in the Executive Summary and Proposal Letter (Exhibit A Technical Proposal), that they have received and reviewed all materials posted on the webpage.

A.5. PROJECT CONTRACT (DBA) DOCUMENTATION AND FHWA REQUIREMENTS / EXHIBITS

The DBA for this Project will be a typical City of Houston contract to design, build, and integrate HITS as described in the Project documents within section A.2. All standard City of Houston contract specifications can be found on the City of Houston webpage:

Standard Front End Documents:
https://edocs.publicworks.houstontx.gov/engineering-and-construction/specifications/division-00-front-endgeneral-conditions/standard-front-end.html

General Requirements:
https://edocs.publicworks.houstontx.gov/engineering-and-construction/specifications/division-01-general-requirements.html

These documents will be used to generate a single contract (DBA) for this Project. They will be modified to add Project specific details (scope, price, etc.).

Also, the following link includes a full list of federal requirements / exhibits that will apply to the Developer. The Developer shall abide by all federal requirements listed.
http://ops.fhwa.dot.gov/freight/infrastructure/tiger/fy2014_gr_exhbt_tmp/index.htm

A.6. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

The NEPA process for this Project was completed (Categorical Exclusion) on March 3, 2016. The Project shall remain within the scope as defined in the Project documents (section A.2) to remain environmentally clear.

A.7. DBE REQUIREMENT

The City of Houston has determined that the DBE goal for this Project is **seven (7%) percent**. The City of Houston has adopted the definition of DBEs set forth in 49 CFR § 26.5. In response to this RFP, Proposers shall include and identify team members to satisfy this DBE goal.

Each Proposer shall submit a certification concerning DBE requirements (Exhibit B) with its Proposal. Failure to provide the required DBE certification shall be considered a breach of the Proposal requirements and shall render a Proposal non responsive.

The State of Texas maintains the Texas Unified Certification Program DBE Directory containing the names of firms that have been certified to be eligible to participate as DBE's on DOT financially assisted contracts. An updated directory can be found on the internet at http://www.txdot.gov.

Only DBE firms certified at the time the commitments are submitted are eligible to be included in the information furnished by the Proposer.

For purposes of the DBE goal on this Project, DBEs are only allowed to perform work in the categories of work for which they are certified. Only firms certified at the time of execution of the DBA are eligible for DBE goal participation.

A.8. LIABILITY, BONDS AND INSURANCE

The Developer will be required to assume liabilities, to provide bonds (including warranty bonds), and insurance coverage, and to indemnify and defend the City of Houston against third party claims as specified in the DBA. Special provisions concerning forms of security, bonding, guarantees, insurance and indemnity will be set forth in the DBA.

A.9. FEDERAL REQUIREMENTS

Proposers are advised that the RFP will be drafted based on the assumption that the Project and the plan of finance for the Project will remain eligible for federal funds. Therefore, the procurement documents and the DBA must conform to requirements of applicable federal law, regulations and policies. The City of Houston anticipates that certain federal procurement requirements will apply, including but not limited to, Equal Opportunity requirements (Title VI of the Civil Rights Act of 1964, as amended), requirements applicable to DBEs (Title 49 Code of Federal Regulations Part 26, as amended), Small Business requirements (United States Code Section 631 et seq.), Buy America requirements (49 Code of Federal Regulations part 661) and Davis-Bacon wage rates. The City of Houston reserves the right to modify the procurement process described herein to address any concerns, conditions or requirements of federal agencies, including the Federal Highway Administration (FHWA). Proposers shall be notified in writing via an addendum of any such modifications.

A.10. PUBLIC INFORMATION ACT (DISCLOSURE WAIVER)

Each Proposer, by submitting a Proposal to the City of Houston in response to this RFP, consents to the disclosures described in this RFP and all other disclosures required by law and expressly waives the right to contest, impede, prevent or delay such disclosure, or to initiate any proceeding that may have the effect of impeding, preventing or delaying such disclosure, under Texas Government Code Chapter 552 (the "Public Information Act" or the "Act"), the Code, the Rules or any other law relating to the confidentiality or disclosure of information. Under no circumstance will the City of Houston be responsible or liable to a Proposer or any other party as a result of disclosing any such materials. Proposer hereby further agrees to assist the City of Houston in complying with these disclosure requirements.

A.11. WARRANTY

The Developer shall provide a warranty for the Project.

- Guarantee equipment furnished and installed performs according to the manufacturer's published specifications and to the HITS Project requirements. Warrant equipment against defects or failure in design, materials, and workmanship in accordance with the manufacturer's standard warranty;
- The Developer will warrant or guarantee all hardware, software, and equipment for a <u>period of two (2) years</u> after the date of Final System Acceptance of the Project by the City of Houston. The Developer shall warrant or guarantee the following:
    - ITS Devices: DMS, CCTV, Mid-Block Count Stations, Enhanced Detection;
    - Electronic, electrical, and mechanical equipment, technical data, software and all products described in the HITS System Requirements.
- The Developer's warranty or guaranty must provide for the "on-site" repair or replacement, at the Developer's option, within 2 working days and at no cost to the City of Houston;
- Once the Developer's warranty or guarantee expires, assign to the City of Houston any manufacturer's standard warranty or guarantee coverage still remaining;
- During the warranty period, provide technical support from the supplier. Provide this support within 4 hours of request, and provided by factory certified personnel or factory certified installers of the equipment;
- The server manufacturer's mission critical support package is required – 8 hours response time maximum.

A.12. MAINTENANCE

The Developer shall provide maintenance for the Project. The Developer shall be responsible for HITS maintenance for a period of two (2) years following Final System Acceptance. The following are categories of maintenance:

- Response Maintenance
- Emergency Maintenance
- Preventative Maintenance

A.12.a. Response Maintenance

Response maintenance occurs when the malfunction is not considered an emergency. This may be caused by a failed device, component, or other minor issues that does not prevent normal operation. The following is the process for response maintenance:

- The City of Houston will notify the Developer of the issue;
- The Developer must arrive at the site and diagnose the issue as soon as possible but within 48-hours of receiving notification;
- The Developer must perform the repairs as soon as possible, but within 4 days (96 hours) of receiving notification;
- Submit report.

A.12.b. Emergency Maintenance

Emergency maintenance occurs as a response to any damage and / or malfunction that requires immediate repair. This is typically when an ITS device is no longer operational. This is often due to forces of nature, vehicle collision, vandalism, fire, device failure or other unexpected issues. In most cases the City of Houston will be the first responder to the site; however, if it is determined to be a device failure the City of Houston will contact the Developer to correct the issue. In this situation, the Developer shall be responsible for conducting repairs within 24 hours of receiving notification.

A database and/or systems administrator shall also be required to perform emergency maintenance on "back ends systems" including, but not limited to the HITS database, central software modules, archival data, etc.

A.12.c. Preventative Maintenance

The Developer shall be responsible for maintaining ITS equipment in satisfactory operating condition by providing for a systematic inspection, detection, and correction of failures either before they occur or before they develop into major defects. It also includes the periodic repair and replacement of components as needed to properly maintain the device. This includes such activities as, but not limited to:

- Filter cleaning or changing
- Replace failed LED panel
- Clear obstructions
- Cleaning CCTV domes or DMS face plates
- Cracked camera component
- Failed power supply
- Rodent removal
- Sealing conduit
- Repair / replace a malfunctioning component

Preventative maintenance is to be completed a minimum of twice per year for each device (unless the manufacturer suggests more). It shall consist of the ITS device, control cabinet, structure, database, archival data, etc.

A.12.d. Maintenance Documentation

A process for maintenance shall be created by the Developer and approved by the City of Houston. It shall include; inspection, minor repairs, troubleshooting, and reporting.

A maintenance guide for each device shall be created by the Developer and approved by the City of Houston. It shall contain at a minimum:

- Overview (References, Schedule, Required Materials, Work Area, Instructions, Description)
- Checklist Form
- Report Form

A.12.e. Qualified Personnel

The Developer shall be responsible for providing qualified personnel to perform maintenance. Prior to commencing with HITS maintenance the Developer shall submit resumes for all technicians and field personnel. The City of Houston reserves the right to deny any unqualified technician from working on HITS maintenance if the City of Houston feels that the individual is not qualified to perform the work.

A.13. SPARE PARTS

An inventory of spare parts shall be provided by the Developer. The Developer shall maintain, supplement, and utilize a spare parts supply held, owned, and managed by the City of Houston. The inventory should be sufficient to allow for prompt response to maintenance issues, but shall be limited to an amount that will not result in an "outdated" inventory of equipment. The amount of spare parts shall be determined by the Proposer and described in the Price Proposal. The Developer shall provide the list and quantity of key components proposed for spare parts to be approved by the City of Houston. The following shall be provided:

- Spare parts list of key components by ITS device (including manufacturer's information);
- Ensure the City of Houston inventory has 1-year of inventory of key components on hand upon completion of warranty period;
- Replacement parts shall be of equal or greater value.

A.14. PROJECT MILESTONE DATES

The following are planned dates for the HITS Project:

Activity	Date
Planned Design-Build Contract Award Date	June 2016
Planned Design-Build Start Date	July 2016
Planned Construction Start Date	December 2016
Planned Project Construction Substantial Completion and Open to Traffic Date	January 2019
Planned Project Closeout Date	March 2019

B. PROCUREMENT PROCESS

B.1. PROCUREMENT METHOD

The City of Houston reserves the right, in its sole discretion, to modify the following procurement process to comply with applicable law and/or to address the best interests of the City of Houston, including canceling the procurement.

The City of Houston will award the DBA (if at all) to the responsible Proposer offering a Proposal meeting the high standards set by the City of Houston and which is determined by the City of Houston, through evaluation based upon the criteria set forth in the RFP, to provide the **best value** to the City of Houston.

The City of Houston will accept Proposals for the Project only from those Proposers the City of Houston shortlisted for the procurement based on their responses to the RFQ.

The City of Houston will not review or consider alternative Proposals.

B.2. PROCUREMENT SCHEDULE

TABLE 1 – Procurement Schedule

Event	Date and Time
Issue "draft" RFP for Industry Review	March 7, 2016
Industry Review comments due	March 15, 2016
One-on-one Meetings with Proposers	March 29 or 30, 2016
Issue final (revised) RFP	April 29, 2016
Deadline for questions regarding the RFP	May 17, 2016
Questions relating to any Addendum	Three business days after the addendum is issued (but no later than 2 days before the Proposal due date)
Proposal's due	May 24, 2016, 1:00 PM (CST)
Interviews	June 1, 2016

This schedule is subject to modification at the sole discretion of the City of Houston. Proposers will be notified of any changes by an Addendum to this RFP. The City of Houston anticipates awarding and executing a DBA for the Project in June 2016.

B.3. PRE-PROPOSAL MEETINGS

B.3.a. Informational Meetings

The City of Houston may hold joint informational meetings with all Proposers at any time prior to the Proposal due date. Informational meeting may be held either in person or by telephonic or electronic means. If any informational meeting is held, each Proposer shall attend with appropriate members of its proposed key personnel.

B.3.b. One-on-One Meetings

The City of Houston intends to conduct one-on-one meeting with each Proposer on the dates set forth in section B.2 and on such other dates designated by the City of Houston in writing (or email) to the Proposers, to discuss issues and clarifications regarding the RFP. The City of Houston reserves the right to disclose to all Proposers any issues raised during the one-on-one meeting, except to the extent that the City of Houston determines, in its sole discretion, such disclosure would reveal a Proposer's confidential business strategies. Examples may include, but not limited to, a Proposer's equipment selection, specific technical aspects of their bid, etc. The City of Houston will make these decisions under advisement from the Proposer. Participation at such meetings by the Proposers shall be mandatory. Failure to attend may result in disqualification. FHWA may also participate in all one-on-one meetings.

The one-on-one meetings are subject to the following:

- The meetings are intended to provide Proposers with a better understanding of the RFP;
- Proposers shall not seek to obtain commitments from the City of Houston in the meetings or otherwise seek to obtain an unfair competitive advantage over any other Proposer;
- No aspect of these meetings is intended to provide any Proposer with access to information that is not similarly available to other Proposers, and no part of the evaluation of Proposals will be based on the conduct or discussions that occur during these meetings.

Persons attending the one-one-one meetings will be required to sign an acknowledgement of the foregoing rules, and each Proposer will be required to identify all participants from the Proposer whether attending in person or by phone.

During one-on-one meetings, Proposers may ask questions and the City of Houston may provide responses. However, any responses provided by the City of Houston during one-on-one meetings may not be relied upon unless questions were submitted in writing and the City of Houston provided written responses in accordance with B.5 and only to the extent expressly set forth in the DBA. The questions and responses will be provided in writing to all Proposers, except to the extent such questions are deemed by the City of Houston to contain confidential or proprietary information relating to a particular Proposer's Proposal.

B.3.c. Statements at Meetings

Nothing stated at any pre-proposal meeting or included in a written record or summary of a meeting will modify the instructions to Proposers or any other part of the RFP unless it is incorporated in an Addendum issued pursuant to B.6.

B.4. SYSTEMS REQUIREMENTS REVIEW

The City of Houston will conduct a systems requirements review meeting post DBA award. The intent of this meeting is to review the system requirements to ensure the Developer and the City of Houston agree on the intent of each requirement. System requirements may be prioritized and possibly modified / removed to minimize Project costs (primarily software development costs). No changes will be made that modify the overall Project goals.

B.5. INDUSTRY REVIEW

The City of Houston will release a draft RFP for review and comment by shortlisted Proposers. The intent is to give Proposers the opportunity to provide comments (not questions) prior to release of the final RFP. Proposers will have the opportunity to submit questions and comments during the RFP process; however, the Industry Review will hopefully reduce possible Addenda and limit questions from Proposers during the RFP process. It is recommended that Proposers provide comments, if necessary, by the due date in section B.2. Each Proposer shall provide only one (1) set of comments. Comments shall be clearly labeled providing specific page and section numbers. The City of Houston may follow up with a Proposer if additional clarification is needed on a comment. The City of Houston will consider comments from the shortlisted proposers; however, the City of Houston may or may not modify the RFP in response to these comments.

B.6. QUESTIONS AND CLARIFICATIONS

All inquiries regarding this solicitation or to gain access into a facility is to be directed to the City Representative at:

michael.wahl@houstontranstar.org

The City of Houston will only consider comments or questions regarding the RFP, including requests for clarification and request to correct errors, if submitted by a shortlisted Proposer to the City Representative by email. Proposers are responsible for ensuring that any email clearly indicates in the subject line “HITS Project”.

B.7. ADDENDA

The City of Houston reserves the right, in its sole discretion, to revise, modify or change the RFP and/or procurement process at any time before the Proposal due date. Any such revisions will be implemented through issuance of Addenda to the RFP. All Addenda will be posted to the Project webpage. Proposers are responsible for monitoring the Project webpage for information concerning this procurement. Proposers shall acknowledge in the Executive Summary that they have received and reviewed all materials posted including Addenda, if any.

B.8. COMMUNICATIONS

The following rules of contact shall apply during the procurement period for the Project, which began on the date of issuance of the draft RFP, for Industry Review, and will be completed with the execution of the DBA. These rules are designed to promote a fair and unbiased procurement process. Contact includes face-to-face, telephone, facsimile, email or formal written communications.

Commencing with issuance of this RFP and continuing until the execution of the DBA, aside from the City of Houston's formal response to written requests for clarification during the period officially designated for such purpose by the City Representative, neither Proposers nor persons acting on their behalf shall communicate or have contact with any appointed or elected official or employee of the City of Houston, their families, or staff in an attempt to persuade or influence the outcome of the award, or to obtain or deliver information intended to or which could reasonably result in an advantage to any Proposer. However, nothing in this paragraph shall prevent a Proposer from making public statements to the City Council convened for a regularly scheduled session after the official selection has been made and the award placed on the City Council agenda for action.

The Proposers shall not contact stakeholders regarding the Project. The stakeholders include elected or appointed officials, employees, representatives and members of the entities listed below:

- City of Houston (except as provided herein);
- FHWA;
- TxDOT;
- Houston TranStar;
- Texas A&M Transportation Institute (TTI).

Any communications determined to be improper, at the sole discretion of the City of Houston, may result in disqualification.

Any official information regarding the Project only will be disseminated from the City of Houston via email from the City Representative or on the Project webpage. The City of Houston will not be responsible for any oral exchange or other information exchange that occurs outside of the official processes specified herein.

B.9. PROTEST PROCEDURES

A protest shall be handled according to the City of Houston Procurement Manual. A protest must be filed no later than 10 business days after earliest advertisement of intent to award (posted on website).

A protest shall be submitted in writing and include the following:

1. The name, address, e-mail, and telephone number of the protester;
2. The signature of the protester or its representative who has the delegated authority to legally bind the person protesting;
3. Identification of a solicitation description and the solicitation or contract number;
4. A detailed written statement of the legal and factual grounds of the protest, including copies of relevant documents, etc.; and

5. The desired relief or outcome.

B.10. DEBRIEFINGS

The results of the evaluation process will be posted on the website. The Proposer not selected for award may request a debriefing. Debriefings shall be provided at the earliest feasible time after execution of the DBA. The debriefing shall be conducted by a City official familiar with the rationale for the selection decision and DBA award. Debriefings shall:

- Be limited to discussion of the unsuccessful Proposer's Proposal and may not include specific discussion of a competing Proposal;
- Be factual and consistent with the evaluation of the unsuccessful Proposer's Proposal;
- Provide information on areas in which the unsuccessful Proposer's technical Proposal had weaknesses or deficiencies.

Debriefings may not include discussion or dissemination of the thoughts, notes, or rankings of individual members of the evaluation committee, but may include a summary of the rationale for the selection decision and DBA award.

B.11. CONFLICT OF INTEREST

Chapter 176 of the Texas Local Government Code requires vendors and consultants contracting or seeking to contract with the City of Houston to file a conflict of interest questionnaire if they have an employment or other business relationship with the City of Houston.

Proposers are required to adhere to 23 CFR 636.116 for conflict of interest requirements for this design-build Project.

B.12. THE CITY OF HOUSTON RESERVED RIGHTS

The City of Houston reserves all rights described herein and available at law, including, without limitation, all rights described in Subchapter I in Chapter 9 of Title 43 of the Texas Administrative Code.

This RFP does not commit the City of Houston to enter into a contract or proceed with the procurement described herein. The City of Houston assumes no obligations or liabilities, fiscal or otherwise, to reimburse all or part of the costs incurred, or alleged to have been incurred, by parties considering a response to and/or responding to this RFP. All such costs shall be borne solely by each Proposer.

In no event shall the City of Houston be bound by, or liable for, any obligations with respect to the Project until such time (if at all) as a DBA, in form and substance satisfactory to the City of Houston, has been executed and authorized by the City of Houston, and then only to the extent set forth therein.

B.13. OBSERVERS DURING EVALUATION

Proposers are advised that observers from FHWA or other agencies may observe and / or review the Proposal evaluation process and will have the opportunity to review the Proposals after the due date.

B.14. EXAMINATION OF RFP

Each Proposer shall be solely responsible for examining, with appropriate care and diligence, the RFP, including Reference Information Documents and Addenda, and material posted on the RFP webpage, and for informing itself with respect to any and all conditions that may in any way affect the amount or nature of its Proposal. The Executive Summary shall include an acknowledgement that the Proposer has received and reviewed all materials posted on the RFP webpage. Failure of Proposer to so examine and inform itself shall be at its sole risk, and the City of Houston will provide no relief for any error or omission.

Each Proposer is responsible for conducting such investigations as it deems appropriate in connection with its Proposal, regarding the condition of existing facilities and site conditions. Proposer's receipt of City of Houston furnished information does not relieve Proposer of such responsibility.

The submission of a Proposal shall be considered prima facie evidence that Proposer has made the above-described examination and is satisfied as to the conditions to be encountered in performing the Work, and as to the requirements of the Contract Documents.

B.15. CHANGES IN PROPOSER'S ORGANIZATION

Proposers are advised that, in order for a Proposer to remain qualified to submit a Proposal after it has been placed on the shortlist, unless otherwise approved in writing by the City of Houston, Proposer's organization as identified in SOQ must remain intact for the duration of the procurement process. If a Proposer wishes to make changes in the team members identified in its SOQ, including, without limitation, additions, deletions, reorganizations, and / or role changes in any of the foregoing, Proposers shall submit to the City of Houston a written request for approval of the change.

C. SUBMISSION REQUIREMENTS AND EVALUATION

C.1. SUBMITTING PROPOSAL

To be considered for evaluation, Proposers shall submit six (6) bound hard copies (no 3-ring binders) and one (1) electronic copy (pdf files on a USB drive) of their Proposal (Technical and Price separately) in the manner described below. Any Proposer submitting a Proposal that does not conform to all the requirements of this RFP will be subject to disqualification. This RFP is designed to provide interested Proposers with sufficient basic information to submit a Proposal, but is not intended to limit a Proposal's content or exclude any relevant or essential data.

All (6) hard copies of both the Technical and Price Proposals and one electronic copy of each shall be packaged in two separate sealed envelopes (one for the Technical Proposal and one for the Price Proposal) or other sealed containers marked:

City of Houston
Response to the Request for Proposals (Technical Or Price Proposal)
for Design-Build Services for the Houston Intelligent Transportation System (HITS)

Proposals shall be delivered by hand or courier to the following address:

Ms. LaVerne Hollins-McGlothen
Administrative Coordinator
City of Houston Public Works and Engineering Department
Traffic Operations Division
611 Walker, 5th floor
Houston TX, 77002
(Call 832-395-3013 from 5th floor lobby)

Proposals will be accepted only at this address. The City of Houston will not accept facsimile or other electronic submitted Proposals. Acknowledgement of receipt of Proposal package will be evidenced by the issuance of a receipt by a member of the City of Houston staff. Proposals will be accepted and must be received by the City of Houston after 8:00 AM and before 1:00 PM (Central Time) on the Proposal due date specified in section B.2. Proposals not received between such times on the Proposal due date at the above address shall be rejected and will not be considered by the City of Houston.

Proposers are solely responsible for assuring that the City of Houston receives their Proposal by the specified delivery date and time at the address listed above. The City of Houston shall not be responsible for delays in delivery caused by weather, difficulties experienced by couriers or delivery services, misrouting of packages by courier or delivery service, improper, incorrect or incomplete addressing of deliveries and other occurrences beyond the control of the City of Houston.

C.2. PROPOSAL CONTENT

The Proposal shall consist of two separate Packages include the following:

Package #1 Technical Proposal

- Technical Proposal Executive Summary;
- Table of Contents;
- References;
- Technical Proposal
- Appendix:
  - Exhibits A – C
    - Exhibit A - Proposal Letter
    - Exhibit B - DBE Certificate
    - Exhibit C - Buy America Certificate
  - Equipment Submittals;
  - HITS Requirement Response (section c.5.a.1.a);
  - Resume (Systems Engineer);
  - Other requested documentation.

Package #2 Price Proposal

- Price Proposal Executive Summary
- Exhibit A – Price Proposal
- Price Proposal plans as specified in section C.5.b

The Proposal packages shall meet all requirements set forth in this RFP.

All signatures shall be in blue ink.

C.3. PROPOSAL FORMAT

The Technical Proposal shall contain concise written material and drawings enabling a clear understanding and evaluation of the capabilities of the Proposer and the characteristics and benefits of the Proposal. Legibility, clarity, and completeness of the Proposal is essential.

The Technical Proposal shall meet the following requirements:

- Bound with all pages sequentially numbered;
- 40 pages maximum single sided or 20 pages maximum double sided (not including Appendix);
- Single-spaced;
- No smaller than 12-point font (except for tables and figures which may use 10-point font);
- Spiral binding coil or equivalent (no 3-ring binders);
- 8 ½ x11-inch pages;

- 11x17-inch foldout format for drawings, graphs, charts or maps only (if necessary). 11x17-inch foldouts may not include narrative text except for brief captions;
- All sections clearly labeled with factor and subfactor headings.

The Price Proposal shall meet the following requirements:

- Bound with all pages sequentially numbered;
- 4 pages maximum single sided or 2 pages maximum double sided (not including Exhibit A);
- Single-spaced;
- No smaller than 12-point font (except for tables and figures which may use 10-point font);
- Spiral binding coil or equivalent (no 3-ring binders);
- 8 ½ x11-inch pages;
- All sections clearly labeled.

C.4. EXECUTIVE SUMMARY

Technical Proposal

The Technical Proposal Executive Summary shall be written in a non-technical style and shall contain sufficient information for reviewers with both technical and non-technical backgrounds to become familiar with the Proposer's Proposal and Proposer's ability to satisfy the requirements. It shall, at a minimum, include the following:

- An explanation of the organization and contents of the Proposal;
- A summary of any changes to the Proposer's SOQ content;
- A summary of the Project Development Plan and Price Proposal;
- Acknowledgement of any Addendum and all material posted on webpage;
- A summary of the Proposer's approach to satisfy the DBE requirements.

Price Proposal

The Price Proposal Executive Summary shall contain sufficient information for reviewers with both technical and non-technical backgrounds to become familiar with the Proposer's Price Proposal. It shall, at a minimum, include the following:

- A summary of the organization and contents of the Price Proposal;
- A summary of how Price Proposal satisfies Project requirements;
- Key points the Proposers wished to emphasize related to Price;
- Any benefits the Price Proposal provides to the City of Houston.

C.5. PROPOSAL EVALUATION CRITERIA

The City of Houston's goal is to create a fair and uniform basis for the evaluation of the Proposals in compliance with all applicable legal requirements governing this procurement.

The City of Houston reserves the right to request that a Proposer clarifies its response, and the right to waive any formalities in considering responses. However, failure to furnish all information requested may disqualify a Proposer.

A committee will evaluate/review each Proposal and will give a numerical score for each Proposal according to the evaluation categories. Each area of the evaluation criteria must be addressed in detail in the Proposal (except for the presentation / interview component).

The **best value determination** will be based on the following weighted criteria:

Table 2 – Weighted Criteria

Weight	Evaluation Criteria	Calculation
50%	Technical Score	Technical Score x 0.50
30%	Price Score	Price Score x 0.30
10%	Presentation / Interview	Presentation / Interview Score x 0.10
10%	References	Reference Score x 0.10

C.5.a. Technical Proposal

The Technical Proposal shall consist of a Project Development Plan. The contents and organization of this Proposal are presented in this section of the RFP. All sections of the Technical Proposals shall be clearly labeled with factor and subfactor headings.

C.5.a.1. Project Development Plan

Proposers shall submit a Project Development Plan which shall consist of the following factors:

- Technical Solutions
- Preliminary Project Management Plan
- Preliminary Systems Engineering Plan
- Design-Build Management
- Preliminary Quality Management Plan

The Project Development Plan shall provide the information relevant for developing the Project management philosophy, systems engineering, the plan and schedule for executing the Project including management structure and personnel; and the quality control procedures for any related contract administration, describing how the Proposer plans to achieve and satisfy the Project requirements.

The Preliminary Plans (Project Management, Systems Engineering, and Quality Management) shall be "Straw-Man" documents. A "Straw-Man" document sets the groundwork for a final plan that will be finalized after DBA award. At a minimum, it shall be a response to the subfactors listed below in sections C.5.a.1.a. through C.5.a.1.e. These subfactors will be scored and used to determine the **best value** Proposal. The Preliminary

Plans should not be cumbersome; however, should contain information necessary to manage and meet the requirements of this Project.

C.5.a.1.a Technical Solutions

Technical Solutions shall include innovative design, construction and integration solutions that effectively respond to and address the Project's requirements. The subfactors are as follows:

- HITS System Requirements Response – Update the HITS Systems Requirements document by completing the two (2) columns labeled "Identify one of the following:" and "Briefly explain how requirement is met or will be met" for ALL requirements listed (spreadsheet, with complete response from Proposer, shall be included in the Appendix);
- Proposer's approach to deploy each ITS device (CCTV, mid-block count stations, enhanced traffic signal detection, and DMS) including:
    - Design Plan;
    - Construction Plan;
    - Integration.
- Description of how specific qualifications and skills, of the following key personnel assigned, will benefit the Project technically:
    - Systems Engineer;
    - Integration manager;
    - Construction Manager.
- Proposer's description of how each ITS devices meets Project requirements;
- Software Development Strategy including:
    - Proposer's approach to utilize the City of Houston central traffic management system ATMS.now. ATMS.now shall be the only central traffic management software system used for HITS and shall be modified as necessary to meet Project system requirements. No other modules or components form other central traffic management software systems shall be used. Proposer shall coordinate with Trafficware to develop Proposal.
    - Non-ATMS.now software development. Other software systems can be developed to compliment ATMS.now; however, only one login for an operator is required.
    - Software development strategy to reduce costs and streamline/simplify the software development process. It is the City of Houston's intent to minimize costs associated with software development;
- Proposer's approach for utilizing (and integrating with) existing systems to deploy the Project including:
    - Communications (WiMAX, Fiber Cable);
    - Houston TranStar infrastructure;
    - City of Houston Public Safety Video Management Software (Vidsys).

C.5.a.1.b Preliminary Project Management Plan

The Preliminary Project Management Plan shall set out the Proposer's organizational structure and management approach to coordination of all Project activities. The subfactors are as follows:

- Management Structure:
    - An organizational chart outlining the structure of the Proposer's organization;
    - A brief description of the role of Key Personnel and recent experience applicable to this Project;
    - A Systems Engineer shall be added to the Key Personnel. The Proposer shall identify and include a Systems Engineer to the organizations chart including a description of duties. The following are minimal requirements for a Systems Engineer:
        - Shall demonstrate experience in systems engineering on comparable projects;
        - Provide a list of at least 3 recent Projects, tasks performed, and references (preferably within the past 5 years);
        - Submit resume – include in appendix.
- Schedule:
    - A Preliminary Project Baseline Schedule. A high level Critical Path Method schedule representing the Proposer's plan for completing the work be between notice to proceed and final acceptance;
    - A description of the approach used for preparing, controlling and updating the Project schedule;
- Preliminary list of Project deliverables;
- Inspection Process / Plan;
- Approach to identify, assess, manage, mitigate and allocate Project-specific risks;
- A description of progress performance reports and preparing payment requests;
- Develop a DBE Performance Plan and strategy describing the methods to be employed for achieving the goal including the Proposer's exercise of good faith efforts. The DBE Performance Plan must at a minimum include the following:
    - Specific category of services for DBE participation;
    - Work anticipated for DBE participation;
    - Good faith efforts that will be exercised by the Proposer for the Project.

C.5.a.1.c Preliminary Systems Engineering Plan

The Preliminary Systems Engineering Plan shall describe the Proposer's systems engineering approach for the Project. The subfactors are as follows:

- A description of how the "V" systems engineering model applies to this Project;
- A description of the proposed approach to perform systems engineering on this Project;
- A description of how the provided draft ConOps and Systems Requirements documents would be reviewed and refined as needed;
- A comprehensive strategy to meet and test Project requirements;
- System testing and verification process:
    - System Integration Plan;
    - System Validation Plan;
    - System and Subsystem Verification Plan;

  - System Acceptance Plan;
  - Device Test Plan.
- System engineering deliverables;
- An additional subfactor (not to be included in the actual Preliminary Systems Engineer Plan) is to provide a detailed description of the Systems Engineer's experience in recent comparable ITS projects (including experience with items listed in section C.5.a.1.c Preliminary Systems Engineering Plan). Demonstrate how this key member of the Proposer's team will benefit this Project.

C.5.a.1.d Design-Build Management

The Design-Build Management approach shall present the Proposer's approach for performing design, construction and integration on the Project. The subfactors are as follows:

- A description of the management approach for development and coordination of design;
- A description of the proposed approach for delivering the design for the Project, including where the designers will be located and how designs developed by different firms and offices will be integrated and coordinated to ensure consistency and quality;
- A description of the management approach for construction, including how design will be integrated with construction and how the work will be divided and controlled;
- A description of how the Proposer will manage staged construction, including how it will simultaneously manage construction with on-going operation and maintenance activities;
- A description of the management approach for integration, including how construction will be integrated and how the work will be divided and controlled.

C.5.a.1.e Preliminary Quality Management Plan

The Preliminary Quality Management Plan shall describe the Proposer's quality approach to design, systems engineering, construction and integration for the Project. It shall describe how quality will be managed throughout the lifecycle of the Project. The subfactors are as follows:

- Description of the approach the Developer will use for managing quality (assurance, control, requirements, measurement) throughout the Project's life cycle;
- For the design and systems engineering quality component, a description of the design and systems engineering deliverable process, a description of the internal process for reviews and a description of the quality assurance and quality control functions. The design and system engineering quality component shall also present the Proposer's approach to reporting relationships and responsibilities, including City of Houston oversight procedures to be implemented; conformance with federal oversight requirements; how design and systems engineering quality management will be documented; and how changes will be made to correct design and system engineering deficiencies;
- For the construction and integration quality component, a description of the approach to quality assurance, acceptance testing and inspection, and how construction and integration deficiencies and non-compliance issues will be documented and corrected. The construction and integration component of the preliminary Quality Management Plan shall also describe how the program will integrate with the

design and system engineering activities, including City of Houston owner verification and acceptance and all quality-related activities and conformance with federal oversight requirements;

- Description of the approach the Developer will follow to comply with the City of Houston Standard specifications for change orders, testing laboratory services, submittals, traffic control, etc. These can be found in section A.5;
- Off-site manufactured materials – All products and materials shall require independent testing. If the products or materials are on the TxDOT Material Producer List (MPL) the Developer shall follow the TxDOT MPL procedures. If the product or material is not on the TxDOT MPL then independent testing is required. Follow City of Houston testing procedures or a procedure shall be developed as part of the Quality Management Plan and approved by the City of Houston;
- Project produced materials – all project produced materials shall require random independent sampling and testing by the owner to validate test results using statistical validation. This process shall be developed as part of the Quality Management Plan and approved by the City of Houston;
- The Quality Management Plan shall adhere to requirements in 23 CFR 637. Also, FHWA's Technical Advisory T 6120.3 should be used as a reference.

C.5.a.2. Evaluation Guidelines for Project Development Plan

C.5.a.2.a. Qualitative Rating

The Project Development Plan will be reviewed and will be assigned a qualitative rating for each of the evaluation subfactors in accordance with the following table:

Table 3 – Qualitative Rating

Adjective Rating	Description
Excellent	The Proposal greatly exceeds the stated requirements / objectives, offering material benefits and/or added value and providing assurance that a consistently outstanding level of quality will be achieved. There is very little or no risk that the Proposer's team would fail to satisfy the requirements of the Project. Weaknesses, if any, are very minor and can be readily corrected. Significant unique and/or innovative characteristics are present.
Very Good	The Proposal significantly exceeds the stated requirements / objectives, offering advantages, benefits and/or added value and providing assurance that a level of quality will be achieved that is materially better than acceptable. There is little risk in that Proposer's team would fail to satisfy the requirements of the Project. Weaknesses, if any, are very minor and can be readily corrected. Some unique and/or innovative characteristics are present.

Good	The Proposal materially exceeds the stated requirements / objectives and provides assurance that the level of quality will meet or exceed minimum requirements. There may be a slight probability of risk that Proposer's team may fail to satisfy the requirements of the Project. Weaknesses are correctable or acceptable per minimum standards.
Fair	The Proposal marginally exceeds stated requirements / objectives and provides satisfactory assurance that the level of quality will meet or marginally exceed minimum requirements. There may be questions about the likelihood of success and there is risk that the Proposer may fail to satisfy the requirements of the Project. Weaknesses are correctable or acceptable pre minimum standards.
Meets Minimum	The Proposal meets stated requirements / objectives and provides satisfactory assurance that the minimum level of quality will be achieved. There may be questions about the likelihood of success and there is some risk that Proposer's team may fail to satisfy the requirements of the Project. Weaknesses are correctable or acceptable per minimum standards.

C.5.a.2.b. Technical Score

During the evaluation, each subfactor as described in section C.5.a above will be assigned a consensus rating by the City of Houston, which will be converted to points. The points for each subfactor will be added to determine the Proposal's score for each of the corresponding evaluation factors. The score of each of the evaluation factors will then be added to arrive at the total evaluation score for the Project Development Plan, with 100 maximum possible points (see table 4). The best value points for the Technical Proposal will be calculated using the formula in Table 2.

Table 4 – Technical Proposal Points

Project Development Plan	Maximum Qualitative Rating (100 Points)
Technical Solutions	40 Points
Preliminary Project Management Plan	20 Points
Preliminary Systems Engineering Plan	20 Points
Design-Build Management	10 Points
Preliminary Quality Management Plan	10 Points

C.5.b. Price Proposal

C.5.b.1. Detailed Price Proposal

The Price Proposal shall be completed using Exhibit A Price Proposal. All Project Documents listed in section A.2 shall be considered by the Proposer to generate a price for each item.

The Grand Total Price shall include all costs necessary to complete the Project as described in the Project Documents section A.2. During the Project planning phase (after DBA award) and development of the Project

Management Plan, the Price Proposal can be broken into smaller categories and a new budget submitted (with approval from the City of Houston); however, the revised price, if any, shall not exceed the Grand Total price shown in the Price Proposal.

C.5.b.2. Price Proposal Evaluation

The maximum score available for the Price Proposal is 100 points. The best value points for the Price Proposal will be calculated using the weighted formula in Table 2. The points for the Price Proposal Evaluation will be calculated based Table 5 below. The intent of this section is to obtain "brief" descriptions / plans from the Proposers. Enough information should be provided for an evaluation team to score the Proposal (based on the information provided below).

Table 5 – Price Proposal Points

Price Proposal	Maximum Points
Overall Price	55 points
Spare Parts Plan	15 points
Maintenance Plan	15 points
Software Development Plan	15 points

Overall Price – The Overall Price shall be based on two elements (Grand Total Price comparison and Cost Realism). The Proposal with the lowest submitted Grand Total Price Proposal shall receive the maximum 25 points (Lowest Price Proposal Score = 25 points). Other Proposals received shall be scored using the following formula:

Other Price Proposal Score = Lowest Price Proposal ($) / Other Price Proposal ($) x 25

The other 30 points shall be based on Cost Realism of the Price Proposal including:

- Are realistic for the work to be performed;
- Reflect a clear understanding of the system requirements;
- Are consistent with the Proposer's technical proposal;
- Will satisfactorily meet all contract requirements at the proposed price.

The Proposer shall develop a brief summary of their Price Proposal. The summary shall include a description of how the various prices were obtained and an explanation why prices may be different than what was requested in the City of Houston's TIGER grant application.

Spare Parts Plan – Proposer shall develop a spare parts plan that identifies the inventory of parts needed to maintain the system. The inventory should be sufficient to allow for prompt response to maintenance issues. At a minimum, this plan shall include a table with the following headings:

- Component description
- ITS device (type and make) supported
- Estimate Quantity by Year
- % of spare parts on hand (% compared to parts deployed)

- Unit Price
- Total price

The plan shall also include a brief description of why these parts are included and how the % of spare parts on hand was determined (pole foundations and pole structures shall not be included in this plan). It will be the Developer's responsibility to supply all spare parts during the warranty and maintenance period. Any spare parts not included in the Spare Parts Plan, that is needed to maintain or warranty the ITS device, will be the responsibility of the Developer.

Maintenance Plan - Proposers shall develop a maintenance plan that identifies the following at a minimum:

- Brief description of personnel planned to respond to maintenance and warranty issues
- Brief description of minimum personnel qualifications needed to adequately maintain the ITS device deployed under the DBA
- Brief description of how the Maintenance Price in Exhibit A was determined
- Brief description of the planned maintenance process the Developer plans to follow

Software Development Plan – Proposers shall provide a brief description on how costs were derived for software development including, but not limited to:

- ATMS.now development components
- Non-ATMS.now components

A brief description of the overall plan for software development shall be included. Also, list any potential areas that may reduce software development costs during Project Development.

****Software Development Costs associated with the System Requirements should be itemized (not submitted). A detailed systems requirements review will be conducted after DBA award to review costs associated with the System Requirements. Some requirements may be revised and/or removed during this review to minimize overall project costs.*

Price Proposal Rating

Each element of the Price Proposal (Maintenance Plan, Spare Parts Plan, and Software Development Plan) will be scored based on the following 3 categories:

- Responsiveness
- Reasonableness
- Realistic based on work to be performed

Each element will be reviewed and assigned a qualitative rating in accordance with the following table:

Table 6 – Price Proposal Rating

Rating	Score
Excellent	5
Very good	4
Average	3
Fair	2
Poor	1

Each element of the Price Proposal (Maintenance Plan, Spare Parts Plan, and Software Development Plan) has a maximum of 15 points available (or 15% of overall Price Proposal score). Table 5 will be used to calculate the overall Price Proposal score.

C.5.c. Presentation / Interview

Proposers will be scheduled and required to provide a presentation summarizing their Proposal. The following are requirements for the presentation / interview:

- One hour presentation / interview window;
- 20 minute introduction of the team and key points of the Proposal;
- 40 minutes to answer questions from the review committee;
- Maximum of 5 members of the Proposer's team shall be allowed to attend.

The presentation / interview component of the procurement process shall be scored based on answers to questions and quality of the presentation. Each committee member will be scoring the presentation based on the Proposer's ability to present Project details and key components of their Proposal. Also, the Proposer's response to questions will be scored.

The Presentation / Interview will be scored on a point system with 100 points being the maximum score. The best value points for the Presentation / Interview will be calculated using the weighted formula in Table 2.

C.5.d. References

References shall be provided for the following ITS devices;

- DMS
- CCTV
- Mid-Block Count Stations
- Enhanced Detection

It is the City of Houston intent to use proven technologies. No "bleeding edge" or prototype technologies / products are permitted on this Project. The Proposer shall provide three (3) references for each device. The references shall include the following:

- Name of reference
- Contact information (phone and email)
- Number of devices deployed
- Duration devices have been in operation (date installed)

References shall be public agencies within the US. It is preferred, but not required, that references provided are local to the Houston area if possible.

References will be scored on a point system with 100 points being the maximum score. The City of Houston will contact references using a standard set of questions with point values associated with each. Responses will be scored and summed to obtain a value out of 100 possible points. The best value points for References will be calculated using the weighted formula in Table 2.

C.5.e. Best Value Score

Best value score shall be calculated using the weighted formulas in Table 2. The maximum possible score is 100 points. The Proposer with the highest best value score shall be selected and can proceed with execution of a DBA with the City of Houston.

D. PRELIMINARY PROJECT SCOPE OF SERVICES

The following is only a preliminary scope of services. The Proposer shall take into account HITS System Requirements as well as all other Project Documents listed in section A.2 when developing a final scope of services and a Price Proposal. A detailed scope of services will be developed as part of the Project Management Plan. The anticipated (preliminary) scope of services includes the following elements (at a minimum):

- Project / Construction Management
  - Finalize and maintain a *Project Management Plan* to include at the minimum:
    - Scope
    - Budget
    - Project schedule (including, but not limited to, baseline, milestones, deliverables, dependencies, etc.)
    - Key Milestones include, but not limited to,
      - ✓ Contract Award Date
      - ✓ Notice To Proceed 1 – mobilization, systems engineering, Project management plan
      - ✓ Notice to Proceed 2 – design, construction, integration
      - ✓ Design and Systems Engineering duration and deliverable dates
      - ✓ ITS device Construction and integration start and duration dates
      - ✓ Systems Engineering testing and acceptance dates
      - ✓ Final System (Project) Acceptance
    - Deliverables
    - Inspection Plan
    - Potential Risks
  - Finalize and Maintain a *Quality Management Plan;*
  - Conduct project meetings and provide meeting minutes;
  - Gain access to, utilize, and update as needed the City of Houston CIPMS system for Project records;
  - Conduct and report on performance measures (before, during, and after);
    - Pre-project report
    - Interim reports (monthly)
    - After-project report
  - Create and submit status reports;
  - Create and submit Progress Assessment Reports – report actual payments made to DBEs
  - Permitting;
  - Progress payments;
  - The selected team shall become familiar with FHWA's TIGER VI reporting requirements for capital projects (see link in section A.5 for FHWA exhibits). The selected team must provide the following reports, at a minimum, to the City of Houston for submittal to FHWA:
    - Monthly Report
    - Quarterly Report

        - Annual Report
    - The Developer will be required to submit resumes with qualification s / certifications of all technical staff (including construction and integration) assigned to the Project. Lead technicians deploying and integrating the system shall have previous experience and up to date certifications on the devices they are installing / integrating.
- Systems Engineering
    - Comply with 23 CFR Part 940. Subchapter K and Regional ITS Architecture;
    - Finalize and Maintain a *Systems Engineering Plan*:
        - Development of roadmap for complying with system engineering process and the "V" diagram;
        - Systems Engineering Process;
        - System Integration Plan;
        - System Validation Plan;
        - System and Subsystem Verification Plan;
        - System Acceptance Plan;
        - Device Test Plan;
        - Interface Control Document.
    - Detailed system requirements review. Includes meeting(s) with the City of Houston to ensure system requirements clarity;
    - Process to ensure system requirements are met and tested;
    - Develop final Project architecture to comply with 23 CFR Part 940 and local policy. Apply the Project architecture to the updated regional architecture;
    - Create physical (system) and functional block diagrams.
- Design
    - Utilize existing conceptual designs to locate the approximate location of each DMS, midblock count station, and CCTV camera. Review these locations to ensure the ITS devices are conceptually placed in the best location to achieve Project goals;
    - The list of enhance detection locations is shown in the HITS ConOps. These locations shall be visited to ensure the appropriate technology is chosen for each (loops, magnetometers and /or radar – see HITS System Requirements Document). Also, this list shall be used in calculating the Price Proposal for enhanced detection.
    - Coordinate with utility companies to establish power connections for each ITS device not located at a traffic signal. Obtain necessary permits, approvals and signatures required;
    - Provide GIS support for updating ITS device locations;
    - Conduct interagency coordination to obtain all necessary permits and approvals;
    - Prepare construction documents necessary to price, permit, and construct. Construction documents shall include all disciplines necessary for pricing, permitting, and constructing the Project. The drawings and specifications will be reviewed by the City of Houston. Submitting percentages are to be determined;
    - Prepare an initial construction cost estimate for City of Houston approval. The estimate will be updated throughout the design and revisions to the scope of work recommended if the cost estimate indicates the construction cost will exceed the designated budget;

- Provide technical specifications for all ITS devices deployed and supporting equipment, if not existing, and modifications to existing specifications as needed. These specifications shall utilize existing City of Houston format;
- Provide maintenance specifications;
- Provide design clarification and recommendations to resolve field problems, with City of Houston concurrence.

➢ Construction
- Solicit, review, approve or take other appropriate action on shop drawings, samples, and other submissions required by construction documents. Review laboratory, shop and mill tests of materials and equipment for conformance with the construction documents;
- Prepare supporting data and provide other services, including revisions to the documents, in connection with work change directives and change orders;
- Deploy all Project infrastructure per construction plans and Project requirements;
- Deploy WiMAX ONLY at all proposed count station and DMS locations;
- The City of Houston will perform acceptance testing for project produced materials i.e. concrete.
- Provide reproducible record drawings (As-Built) – hard copy, pdf, and CAD files.

➢ Integration
- Furnish, install, integrate all equipment at Houston TranStar as per Project requirements;
- Integrate all systems and subsystems;
- Integrate all ITS devices per Project requirements;
- Testing (to be observed and approved by the City of Houston):
  - Device
  - Subsystems
  - Systems
  - End-to End
  - Acceptance

➢ Software Development
- Software development for the City of Houston central software system (ATMS.now) as per Project requirements;
- Software development for non-ATMS.now elements.

➢ Training
- Conduct training per Project requirements;
- Provide training during installation, testing and integration;
- Provide training through practical demonstrations, seminars, and other related technical procedures;
- Conduct “Hands-on” training for operation of each type of equipment;
- Conduct training that explains all system commands, their function and usage;
- Conduct training that explains troubleshooting and problem identification procedures;
- Develop training lab that includes all ITS devices at Houston TranStar or other City of Houston approved location;
- Supporting documentation

- Installation procedures;
- Training, User, and Maintenance Manual(s);
- Preventative Maintenance Guides for ITS devices;
- A simplified version of each manual/guide shall be provided to utilize a quick reference for operators and maintenance staff. These manuals shall be color coded and laminated.