

AGENDA

MONTHLY MEETING OF THE BOARD OF DIRECTORS OF THE INDUSTRIAL DEVELOPMENT BOARD OF THE CITY OF CHATTANOOGA, TENNESSEE

Monday, November 4, 2024 @ 11:00 AM

1. Call meeting to order.
2. Confirmation of Meeting Advertisement and Quorum Present.
3. Minutes approval for the October 7, 2024, monthly meeting.
4. Recognition of any person wishing to address the Board.
5. **Volkswagen Project**
 - a. A resolution to approve the purchase of an E200ne-155 compressor and HBA15004 Dessicant Dryer from Ingersoll Rand Industrial, U.S., Inc., for a cost of \$286,003.30, and a freight allowance of \$3,500.00, for a total cost of \$289,503.30, and to amend the resolution approved on October 7, 2024, to remove the installation allowance of \$100,000.00.
6. **e2i2 Project**
 - a. A resolution authorizing the Industrial Development Board Chair or Vice-Chair to execute a Progressive Design-Build Contract, in substantially the form attached, with additional amendments, for the Class A Power Project – Contract No. W-20-027, with Archer Western Construction, LLC, of Atlanta, GA, to execute Phase 1 of the project, in the amount of \$13,390,000.00, subject to approval by the Office of the City Attorney.
 - b. A resolution authorizing the Industrial Development Board to enter into sales contracts with the Electric Power Board of Chattanooga, for electrical services for the West Chickamauga and South Lee Highway project sites, for the e2i2 project, at a cost not to exceed \$450,000.00.
 - c. A resolution authorizing the Industrial Development Board Chair or his designee to approve expenditures of \$50,000.00 or less for the e2i2 Design Build Project for expenses incurred outside the approved design-build contract.
7. **e2i2 Project Update (Report Only)**

8. **Workforce Development**

- a. A resolution authorizing the Industrial Development Board to donate \$50,000.00 from its funds generated by Economic Development lease payments to the Chattanooga Chamber Foundation, a Tennessee non-profit corporation, for a Workforce Development Tech Accelerator Program in furtherance of Economic Development in the technology sector.
- b. A resolution authorizing the Industrial Development Board Chair or Vice-Chair to execute a Project Grant Agreement (High Growth Jobs and Investment Program) with AIS Enclosure Systems – Chattanooga, LLC.

9. **HomeServe**

- a. A resolution authorizing the Industrial Development Chair or Vice-Chair to execute a QuitClaim Deed transferring the HomeServe property located at 7134 Lee Highway, Parcel No. 139P-C-007, given the completion of the PILOT incentive which ended December 31, 2023.

10. Other Business – Discussion Items

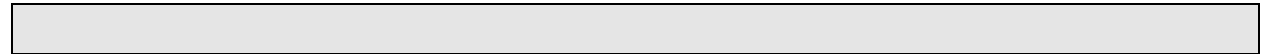
11. Adjournment.



**INDUSTRIAL DEVELOPMENT BOARD
MONTHLY MEETING MINUTES
John P. Franklin Sr. City Council Building
Assembly Room
Chattanooga, Tennessee
for
Monday, October 7, 2024
11:00 AM**

Present were Kerry Hayes (Chair), Althea Jones (Vice-Chair), Jim Floyd (Assistant Secretary), Ray Adkins, and Nadia Kain. Absent were Jimmy F. Rodgers, Jr., Gordon Parker (Secretary), and Melody Shekari.

Also Present were: Attorney for the Board, Phillip A. Noblett; Jermaine Freeman (Chief of Staff); Charita Allen (ECD); Gail Hart (Real Property); Justin Steinmann and Mark Heinzer (Wastewater); Eleanor Liu, Javaid Majid, and Fredia Forshee (Finance); Mike Pare (Times-Free Press); Clay Oliver (Public Works); Richard Beeland (ECD); and Sarah Mattson.



Chair Hayes called the meeting to order, confirmed the meeting was duly advertised, and established that a quorum was present to conduct business.



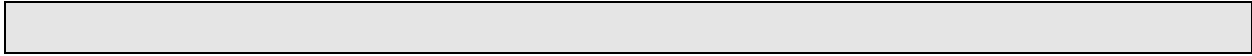
SPECIAL MONTHLY MEETING OF AUGUST 26, 2024 – MINUTES APPROVAL

On motion of Mr. Adkins, seconded by Mr. Floyd, the minutes of the August 26, 2024, special monthly meeting were unanimously approved.



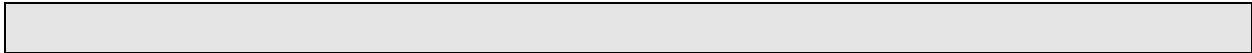
MOMENT OF SILENCE
TO REMEMBER THE LIFE OF
SYLVESTER HARRIS

Mr. Sylvester Harris passed away a week ago and did some work on the South Broad TIF Project. He was a tremendous man and leader in our community who did a lot for economic and workforce development and in particular the Chattanooga neighborhood.



PUBLIC COMMENTS

No one from the public had comments.



VOLKSWAGEN PROJECT

On motion of Mr. Floyd, seconded by Ms. Kain,

A RESOLUTION AUTHORIZING THE PURCHASE OF AN H200NE-W155 COMPRESSOR FROM INGERSOLL RAND INDUSTRIAL, U.S., INC. FOR REPLACEMENT OF AN EXISTING COMPRESSOR, IN THE AMOUNT OF TWO HUNDRED THIRTY-SIX THOUSAND NINE HUNDRED FIFTY AND 36/100 DOLLARS (\$236,950.36), WITH AN ALLOWANCE FOR INSTALLATION OF ONE HUNDRED THOUSAND DOLLARS (\$100,000.00), FOR AN AMOUNT NOT TO EXCEED THREE HUNDRED THIRTY-SIX THOUSAND NINE HUNDRED FIFTY AND 36/100 DOLLARS (\$336,950.36).

Mr. Clay Oliver with the Department of Public Works spoke. It is a very large air compressor that helps run the paint job. It runs in series with a couple of other air compressors. They have a total of six. This is one of their service protection air compressors that keeps forwarding the others with air. We would like to propose a floor amendment. As we have been going back and forth with manufacturers, we believe the installation cost will be close to \$100,000.00. That would raise it to \$336,950.36.

Ms. Kain asked if it was possible to fix the one that is there now. Mr. Oliver said it is not. It is about 14 years old. They do not make them anymore. We have chosen Ingersoll Rand which is attached to the documentation for the resolution request is actually a sole source justification letter. We talked back and forth with them and the other five compressors are also with Ingersoll Rand. They are designed to talk to each other which another manufacturer would have to use software and things to get them to work together. Ingersoll Rand's compressors do work with their old compressors.

Ms. Kain asked what was the significant reason for that additional labor installation cost? Mr. Oliver said as they were going through it, he was thinking it was about the size of a 10 ton HVAC unit. But it generates additional heat because of the compression so there is some clearance that has to be made with the other compressors where we have to move to another one and a significant amount of electrical work.

Attorney Noblett confirmed that this is the VW project. Mr. Oliver said that these funds are expected to come from the leftover funds that Ms. Liu is going to talk about for MOU1 and MOU2. Half of the money will be coming from the City and half from the County. The money will be reimbursed at one half each. The project itself is in the name of the IDB, which is the reason they are coming to the Board.

Ms. Eleanor Liu says we do have some remaining funds left from the special funds and second MOU.

The motion carried.

ADOPTED

VOLKSWAGEN FUNDING PROGRESS SUMMARY,
ECONOMIC DEVELOPMENT PROGRAMS SUMMARY,
TAX INCREMENT FINANCING (TIF) SUMMARY, AND
E2I2 PROGRAM SUMMARY

Ms. Liu from Finance Department went over the report summaries.

1. VW Grant – from the first MOU there is a remaining balance of \$53,000 approximately leftover and unspent. From the second MOU, there is approximately \$451,000 left. The third MOU there is a remaining \$5 million between the County and City not spent. In total, we do have sufficient money to cover the compressor. From all of the grants received, the first, second, and third MOU we have spent encumbered, and contingency are at 98% approximately.
2. Economic Development Programs – this report summarizes seven programs. In whole we have about \$3.7 million. Each fund has its own intended purposes to spend. (inaudible)
3. TIF summary – we are only receiving payment on three TIFs which are Black Creek, M.L. King, and East Chattanooga Rising. In total cash on hand is \$112,000. The cash comes from the admin fee that we collect. The rest of the tax payments most get sent over to the developer. The IDB does not keep any money.
4. E2i2 Program – from the last board meeting the resolution approved the project cost increase. (inaudible) The project budget is \$153,087,868 and was approved in the last board meeting. The total right now spent is \$4.8 million. There is \$336,439 that have not seen reimbursement.

e2i2 PROJECT

On motion of Ms. Jones, seconded by Ms. Kain,

A RESOLUTION AUTHORIZING THE INDUSTRIAL DEVELOPMENT BOARD CHAIR OR VICE-CHAIR TO EXECUTE AN EXTENSION DEPOSIT AGREEMENT WITH TENNESSEE-AMERICAN WATER COMPANY, IN SUBSTANTIALLY THE FORM ATTACHED, FOR THE INSTALLATION OF APPROXIMATELY 1,520 LINEAR FEET OF SIX (6") INCH WATER MAIN AND TWO PUBLIC FIRE HYDRANTS FOR THE ST. STEPHENS WATER MAIN EXTENSION, FOR THE E2I2 PROJECT, FOR A COST NOT TO EXCEED ONE HUNDRED FORTY-TWO THOUSAND NINE HUNDRED FOURTEEN DOLLARS (\$142,914.00).

Mr. Justin Steinmann from the Wastewater Department spoke. This first resolution is authorizing the execution of an extension of the Deposit Agreement with TAWC. That is required for the Lee Hwy. site for e2i2. Since the IDB are the permanent owners of the design build project, any expenditure that is not part of the contract has to be individually approved by the Board.

Regarding the License Agreement, there are two different access points for the project because it does not have direct road access. This is the primary construction access which is on I-24. The License Agreement is between the State, the City, and the IDB. City Council has approved this, and we are bringing this to the Board for approval.

The final resolution is that retainage is required for any capital project. We want to ensure that the retainage documents for e2i2 clarify that the IDB Chair or Vice-Chair has authority to execute those and that the City CFO, Deputy CFO, and Budget Officer also have the ability to execute those. This is consistent with all of the City's other capital projects. Now that we are going to construction, we will start withholding retainage. We have not had to do it yet but this would apply for this project and would anticipate that we would bring something similar in a year or more when Class A Power is in construction.

Attorney Noblett asked if the State has already signed off on the access easement? They were waiting for us to approve all of the language. Mr. Richard Beeland will be signing off on behalf of the City as the Real Property aspect.

The motion carried.

ADOPTED

On motion of Ms. Kain, seconded by Mr. Floyd,

A RESOLUTION AUTHORIZING THE INDUSTRIAL DEVELOPMENT BOARD CHAIR OR VICE-CHAIR TO EXECUTE A LICENSE AGREEMENT WITH THE STATE OF TENNESSEE, ACTING BY AND THROUGH ITS COMMISSIONER OF TRANSPORTATION, AND THE CITY OF CHATTANOOGA, IN SUBSTANTIALLY THE FORM ATTACHED, FOR A TEMPORARY FORTY (40') FOOT LOCKED GATE OPENING IN THE STATE'S CONTROLLED ACCESS FENCE AT MILE MARKER 1.569 ADJACENT TO I-75N, WITH A TERM THAT WILL AUTOMATICALLY TERMINATE UPON COMPLETION OF THE E2I2 CONSTRUCTION PROJECT, WITH THIS BEING AT AN ANNUAL FEE OF ZERO DOLLARS (\$0).

The motion carried.

ADOPTED

On motion of Ms. Jones, seconded by Ms. Kain,

A RESOLUTION AUTHORIZING THE INDUSTRIAL DEVELOPMENT BOARD CHAIR OR VICE-CHAIR, THE CITY OF CHATTANOOGA CHIEF FINANCIAL OFFICER, DEPUTY CHIEF FINANCIAL OFFICER, AND BUDGET OFFICER TO EXECUTE ALL DOCUMENTS RELATING TO CAPITAL PROJECT RETAINAGE FOR THE E2I2 CAPITAL PROJECT AND FUTURE WASTEWATER CAPITAL PROJECTS PROCURED THROUGH THE INDUSTRIAL DEVELOPMENT BOARD, AND ON BEHALF OF THE INDUSTRIAL DEVELOPMENT BOARD OF THE CITY OF CHATTANOOGA.

The motion carried.

ADOPTED

OTHER BUSINESS – DISCUSSION ITEMS

Chairman Hayes noted that he was really happy to see about the renovation of the Walnut Street Bridge starting next March. He is thrilled about that because he uses it every day. The re-design of Frazier Avenue is beginning to commence at the end of this month, and Chairman Hayes did not know if there was mitigation funding for these businesses.

Ms. Sarah Mattson said they are doing mitigation grants for the Walnut Street Bridge renovation, but it is the City's policy that we are not doing mitigation grants for projects less than ninety (90) days. Likely not for the street. Support small businesses.



After further discussion, a motion was made by Ms. Jones, seconded by Mr. Floyd, and there being no further business, the meeting adjourned at 11:15 AM.

GORDON PARKER, *Secretary*

APPROVED:

KERRY HAYES, *Chair*

RESOLUTION

A RESOLUTION TO APPROVE THE PURCHASE OF AN E200NE-155 COMPRESSOR AND HBA15004 DESSICANT DRYER FROM INGERSOLL RAND INDUSTRIAL, U.S., INC., FOR A COST OF TWO HUNDRED EIGHTY-SIX THOUSAND THREE AND 30/100 DOLLARS (\$286,003.30), AND A FREIGHT ALLOWANCE OF THREE THOUSAND FIVE HUNDRED DOLLARS (\$3,500.00), FOR A TOTAL COST OF TWO HUNDRED EIGHTY-NINE THOUSAND FIVE HUNDRED THREE AND 30/100 DOLLARS (\$289,503.30), AND TO AMEND THE RESOLUTION APPROVED ON OCTOBER 7, 2024, TO REMOVE THE INSTALLATION ALLOWANCE OF ONE HUNDRED THOUSAND DOLLARS (\$100,000.00).

BE IT RESOLVED, that the Industrial Development Board of the City of Chattanooga is hereby approving the purchase of an E200ne-155 compressor and HBA15004 Dessicant Dryer from Ingersoll Rand Industrial, U.S., Inc., for a cost of \$286,003.30, and a freight allowance of \$3,500.00, for a total cost of \$289,503.30, and to amend the resolution approved on October 7, 2024, to remove the installation allowance of \$100,000.00.

ADOPTED: November 4, 2024

THE INDUSTRIAL DEVELOPMENT
BOARD OF THE CITY OF CHATTANOOGA

Attest:

KERRY HAYES, Chair

GORDON PARKER, Secretary

Industrial Development Board



Resolution Request Form

(This form is only required for resolutions requiring expenditure of IDB Funds)

Date Prepared: September 27, 2024

Preparer: William C. Payne

Department: Public Works

Brief Description of Purpose for Resolution:

Resolution Number (if approved by IDB): _____

An IDB resolution is requested to amend Resolution _____, approved on October 7th, 2024, to remove the installation allowance of \$100,000 and add the purchase of a Desiccant Dryer. The amended resolution shall read as follows: A resolution to approve the purchase of an E200ne-155 compressor and HBA15004 Dessicant Dryer from Ingersoll Rand Industrial, U.S., Inc. for a cost of \$286,003.30, and a freight allowance of \$3,500, for a total cost of \$289,503.30

Name of Vendor/Contractor/Grant, etc.	<u>Ingersoll Rand Industrial, US, Inc</u>
Total project cost \$	<u>289,503.30</u>
Amount Funded \$	<u>289,503.30</u>
New Funding Required \$	_____

New Contract/Project? (Yes or No) No
Funds Budgeted? (YES or NO) Yes
Provide Fund NR04
Provide Cost Center Z11301
Proposed Funding Source if not budgeted _____
Grant Period (if applicable) _____

List all other funding sources and amount for each contributor.

<u>Amount(s)</u>	<u>Grantor(s)</u>
_____	_____
<u>\$144,751.65</u>	<u>City of Chattanooga</u>
<u>\$144,751.65</u>	<u>Hamilton County</u>

Agency Grant Number _____

Contract Administered I City _____

CFDA Number if known _____

Other comments: (Include contingency amount, contractor, and other information useful in preparing resolution)

Headquarters: Davidson, NC

Branch: Chattanooga, TN

Approved by: _____

Reviewed by: FINANCE OFFICE

DESIGNATED OFFICIAL/ADMINISTRATOR

Please submit completed form to @budget, City Attorney and City Finance Officer

RESOLUTION

A RESOLUTION AUTHORIZING THE INDUSTRIAL DEVELOPMENT BOARD CHAIR OR VICE-CHAIR TO EXECUTE A PROGRESSIVE DESIGN-BUILD CONTRACT, IN SUBSTANTIALLY THE FORM ATTACHED, WITH ADDITIONAL AMENDMENTS, FOR THE CLASS A POWER PROJECT – CONTRACT NO. W-20-027, WITH ARCHER WESTERN CONSTRUCTION, LLC, OF ATLANTA, GA, TO EXECUTE PHASE 1 OF THE PROJECT, IN THE AMOUNT OF THIRTEEN MILLION THREE HUNDRED NINETY THOUSAND DOLLARS (\$13,390,000.00), SUBJECT TO APPROVAL BY THE OFFICE OF THE CITY ATTORNEY.

BE IT RESOLVED, that the Industrial Development Board of the City of Chattanooga is hereby authorizing the Chair or Vice-Chair to execute a Progressive Design-Build Contract, in substantially the form attached, with additional amendments, for the Class A Power Project – Contract No. W-20-027, with Archer Western Construction, LLC, of Atlanta, GA, to execute Phase 1 of the project, in the amount of \$13,390,000.00, subject to approval by the Office of the City Attorney.

ADOPTED: November 4, 2024

THE INDUSTRIAL DEVELOPMENT
BOARD OF THE CITY OF CHATTANOOGA

Attest:

KERRY HAYES, Chair

GORDON PARKER, Secretary

**Draft Progressive Design-Build Agreement
Based on DBIA Form 545**

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Progressive Design-Build Agreement for Design and Construction Services between the City of Chattanooga and the Design-Builder

This **AGREEMENT** is made as of the _____ day of _____ in the year of 2024, by and between the following parties, for services in connection with the Project identified below:

OWNER:

Industrial Development Board of the City of Chattanooga
100 E. 11th Street, Suite 300
Chattanooga, TN 37402

DESIGN-BUILDER:

PROJECT:

Class A POWER Project

In consideration of the mutual covenants and obligations contained herein, Owner and Design-Builder agree as set forth herein.

Article 1

General

- 1.1 Duty to Cooperate. Owner and Design-Builder commit at all times to cooperate fully with each other and proceed on the basis of trust and good faith to permit each party to realize the benefits afforded under this Agreement.
- 1.2 Definitions. Terms, words, and phrases used in this Agreement shall have the meanings given them in DBIA Document No. 535, *Standard Form of General Conditions of Contract Between Owner and Design-Builder* (2010 Edition) ("General Conditions of Contract").
- 1.3 Design Services. Design-Builder shall, consistent with applicable state licensing laws, provide design services, including architectural, engineering, and other design professional services required by this Agreement. Such design services shall be provided through qualified, licensed design professionals who are either (i) employed by Design-Builder, or (ii) procured by Design-Builder from independent sources. Nothing in this Agreement is intended to create any legal or contractual relationship between Owner and any independent design professional.
- 1.4 Notwithstanding the documents provided by the Owner, Design-Builder shall be responsible for all necessary topographic survey work and geotechnical investigation as part of its scope of work. The Owner will not be responsible for contracting and separately supplying any surveying or geotechnical services to the Design-Builder. The Design-Builder shall be responsible for the accuracy, adequacy and completeness of the information provided by its surveying and geotechnical consultants in furnishing a complete and operational cost-effective design.
- 1.5 The Project will be funded by the City of Chattanooga Enterprise Sewer Fund which will include a federal EPA Loan through the WIFIA program. Accordingly, Design-Builder will comply, and will assist Owner in complying, with all applicable laws, rules, regulations, and requirements of the WIFIA program, and all applicable requirements of the Loan Agreement between the EPA and Owner. Moreover, Design-Builder will ensure all Work complies with laws, rules, regulations, and requirements of the U.S. Environmental Protection Agency.

Article 2

Design-Builder's Services and Responsibilities

- 2.1 General Services.
 - 2.1.1 Owner shall provide Design-Builder with Owner's Project Criteria describing Owner's program requirements and objectives for the Project as set forth in Exhibit A. Owner's Project Criteria shall include Owner's use, space, price, time, site, performance, and expandability requirements. Owner's Project Criteria may include conceptual documents, design specifications, design performance specifications, and other technical materials and requirements prepared by or for Owner.
 - 2.1.2 If Owner's Project Criteria have not been developed prior to the execution of this Agreement, Design-Builder will assist Owner in developing Owner's Project Criteria, with such service deemed to be an additional service for which additional compensation shall be paid by Owner to Design-Builder. If Owner has developed Owner's Project Criteria prior to executing this Agreement, Design-Builder shall review and prepare a written evaluation of such criteria, including recommendations to Owner for different and innovative approaches to the design and construction of the Project. The parties shall meet to discuss Design-Builder's written evaluation of Owner's Project Criteria and agree upon what revisions, if any, should be made to such criteria.

2.2 Phased Services.

2.2.1 Phase 1 Services. Design-Builder shall perform the services of design, pricing, and other services for the Project based on Owner's Project Criteria, as may be revised in accordance with Section 2.1 hereof, as set forth in Exhibit B, Scope of Services. Design-Builder shall perform such services to the level of completion required for Design-Builder and Owner to establish the Contract Price for Phase 2, as set forth in Section 2.3 below. The Contract Price for Phase 2 shall be developed during Phase 1 on an "open-book" basis. Design-Builder's Compensation for Phase 1 Services is set forth in Section 7.0 herein. The level of completion required for Phase 1 Services is defined in Exhibit B, Scope of Services (either as a percentage of design completion or by defined deliverables).

2.2.2 Phase 2 Services. Design-Builder's Phase 2 services shall consist of the completion of design services for the Project, the procurement of all materials and equipment for the Project, the performance of construction services for the Project, the start-up, testing, and commissioning of the Project, and the provision of warranty services, all as further described in the Contract Price Amendment. Upon receipt of Design-Builder's proposed Contract Price for Phase 2, Owner may proceed as set forth in Article 2.3.

2.3 Proposal. Upon completion of the Phase 1 Services and any other Basis of Design Documents upon which the parties may agree, Design-Builder shall submit a proposal to Owner (the "Proposal") for the completion of the design and construction for the Project for the Contract Price, which may be based on Lump Sum or Design-Builder's Fee, Design-Builder's General Conditions Fee, and Cost of the Work with an option for a Guaranteed Maximum Price (GMP).

2.3.1 The Proposal shall include the following unless the parties mutually agree otherwise:

2.3.1.1 The Contract Price that may be based on a Lump Sum or Design-Builder's Fee, Design-Builder's General Conditions Fee, and Cost of the Work, with an option for a GMP, which shall be the sum of:

- i. Design-Builder's Fee as defined in Section 7.3.1 hereof;
- ii. The estimated Cost of the Work as defined in Section 7.5 hereof, inclusive of any Design-Builder's Contingency as defined in Section 7.6.2 hereof;
- iii. Design-Builder's General Conditions Fee as defined in Section 7.4 hereof; and
- iv. If applicable, any prices established under Section 7.1.3 hereof.

2.3.1.2 The Basis of Design Documents, which may include, by way of example, Owner's Project Criteria, which are set forth in detail and are attached to the Proposal.

2.3.1.3 A list of the assumptions and clarifications made by Design-Builder in the preparation of the Proposal, which list is intended to supplement the information contained in the drawings and specifications and is specifically included as part of the Basis of Design Documents.

2.3.1.4 The Scheduled Substantial Completion Date upon which the Proposal is based, to the extent said date has not already been established under Section 6.2.1 hereof, and a schedule upon which the Scheduled Substantial Completion Date is based and a Project Schedule for the Work.

2.3.1.5 If applicable, a list of Allowance Items, Allowance Values, and a statement of their basis.

2.3.1.6 If applicable, a schedule of alternate prices.

2.3.1.7 If applicable, a schedule of unit prices.

2.3.1.8 If applicable, a statement of Additional Services which may be performed but which are not included in the Proposal, and which, if performed, shall be the basis for an increase in the Contract Price and/or Contract Time(s);

2.3.1.9 If applicable, a Savings provision.

2.3.1.10 If applicable, Performance Incentives.

2.3.1.11 The time limit, not less than sixty (60) days after Owner's receipt of the Proposal, for review of the Proposal, and for acceptance of the Proposal; and

2.3.1.12 An Owner's permit list, a list detailing the permits and governmental approvals that Owner will bear responsibility to obtain.

2.3.2 Review and Adjustment to Proposal.

2.3.2.1 After submission of the Proposal, Design-Builder and Owner shall meet to discuss and review the Proposal. If Owner has any comments regarding the Proposal or finds any inconsistencies or inaccuracies in the information presented, it shall promptly give written notice to Design-Builder of such comments or findings. If appropriate, Design-Builder shall, upon receipt of Owner's notice, make appropriate adjustments to the Proposal.

2.3.2.3 Acceptance of Proposal. If Owner accepts the Proposal, as may be amended by Design-Builder, the Contract Price and its basis shall be set forth in an amendment to this Agreement, when mutually agreed between the parties (Contract Price Amendment). Once the parties have agreed upon the Contract Price and Owner has issued a Notice to Proceed with Phase 2, Design-Builder shall perform the Phase 2 Services, all as further described in the Contract Price Amendment, as it may be revised.

2.3.2.4 Failure to Accept the Proposal. If Owner rejects the Proposal or fails to notify Design-Builder in writing on or before the date specified in the Proposal that it accepts the Proposal, the Proposal shall be deemed withdrawn and of no effect. In such event, Owner and Design-Builder shall meet and confer as to how the Project will proceed, with Owner having the following options:

i. Owner may suggest modifications to the Proposal, whereupon, if such modifications are accepted in writing by Design-Builder, the Proposal shall be deemed accepted and the parties shall proceed in accordance with Section 2.3.2.3 above.

ii. Owner may authorize Design-Builder to continue to proceed with the Work on the basis of reimbursement as provided in Section 7.1.2 hereof without a Contract Price, in which case all references in this Agreement to the Contract Price shall not be applicable; or

iii. Owner may terminate this Agreement for convenience in accordance with Article 9 hereof; provided, however, in this event, Design-Builder shall not be entitled to the payment provided for in Section 9.2 hereof.

If Owner fails to exercise any of the above options, Design-Builder shall have the right to (a) continue with the Work as if Owner had elected to proceed in accordance with Item 2.3.2.4 ii. above, and be paid by Owner accordingly, unless and until Owner notifies it in writing to stop the Work, (b) suspend performance of Work in accordance with Section 11.3.1 of the General Conditions of Contract, provided, however, that in such event

Design-Builder shall not be entitled to the payment provided for in Section 9.2 hereof, or (c) may give written notice to Owner that it considers this Agreement completed. If Owner fails to exercise any of the options under Section 2.3.2.4 within ten (10) days of receipt of Design-Builder's notice, then this Agreement shall be deemed completed. If Owner terminates the relationship with Design-Builder under Section 2.3.2.4(iii), or if this Agreement is deemed completed under this paragraph, then Design-Builder shall have no further liability or obligations to Owner under this Agreement.

Article 3

Contract Documents

3.1 The Contract Documents are comprised of the following:

3.1.1 All written modifications, amendments, minor changes, and Change Orders to this Agreement issued in accordance with DBIA Document No. 535, *Standard Form of General Conditions of Contract Agreement Between Owner and Design-Builder* (2010 Edition) ("General Conditions of Contract");

3.1.2 The Contract Price Amendment referenced in Section 2.3.2.3 herein or the Proposal accepted by Owner in accordance with Section 2.3 herein.

3.1.3 This Agreement, including all exhibits (List for example, performance standard requirements, performance incentive arrangements, markup exhibits, allowances, unit prices, or exhibit detailing offsite reimbursable personnel) but excluding, if applicable, the Contract Price Amendment.

3.1.4 The General Conditions of Contract.

3.1.5 Construction Documents prepared and approved in accordance with Section 2.4 of the General Conditions of Contract.

3.1.6 Exhibit B, Scope of Services; and

3.1.7 The following other documents, if any:

3.1.7.1 City of Chattanooga Request for Proposals, Contract No. W-20-027, dated March 2024.

Article 4

Interpretation and Intent

4.1 Design-Builder and Owner, at the time of acceptance of the Proposal by Owner in accordance with Section 2.3 hereof, shall carefully review all the Contract Documents, including the various documents comprising the Basis of Design Documents for any conflicts or ambiguities. Design-Builder and Owner will discuss and resolve any identified conflicts or ambiguities prior to execution of the Agreement, or if applicable, prior to Owner's acceptance of the Proposal.

4.2 The Contract Documents are intended to permit the parties to complete the Work and all obligations required by the Contract Documents within the Contract Time(s) for the Contract Price. The Contract Documents are intended to be complementary and interpreted in harmony so as to avoid

conflict, with words and phrases interpreted in a manner consistent with construction and design industry standards. In the event inconsistencies, conflicts, or ambiguities between or among the Contract Documents are discovered after Owner's acceptance of the Proposal, Design-Builder and Owner shall attempt to resolve any ambiguity, conflict, or inconsistency informally, recognizing that the Contract Documents shall take precedence in the order in which they are listed in Section 3.1 hereof. *(Note, the parties are strongly encouraged to establish in the Contract Price Amendment or Proposal (as applicable) the priority of the various documents comprising such exhibit or proposal.)*

4.3 Terms, words, and phrases used in the Contract Documents, including this Agreement, shall have the meanings given them in the General Conditions of Contract.

4.4 If Owner's Project Criteria contain design specifications: (a) Design-Builder is entitled to reasonably rely on the accuracy of the information represented in the design specifications and their compatibility with other information set forth in Owner's Project Criteria, including any design performance specifications; and (b) Design-Builder shall be entitled to an adjustment in its Contract Price and/or Contract Time(s) to the extent Design-Builder's cost and/or time of performance have been adversely impacted by such inaccurate design specification.

4.5 The Contract Documents form the entire agreement between Owner and Design-Builder and by incorporation herein are as fully binding on the parties as if repeated herein. No oral representations or other agreements have been made by the parties except as specifically stated in the Contract Documents.

4.6 In the event of any conflict between the City of Chattanooga Standard Terms and Conditions (Revised 7/18/2018) and the Contract Documents described in Article 3.1, the Contract Documents shall govern.

Article 5

Ownership of Work Product

5.1 Work Product. All drawings, specifications and other documents and electronic data, including such documents identified in the General Conditions of Contract, furnished by Design-Builder to Owner under this Agreement ("Work Product") are deemed to be instruments of service and Design-Builder shall retain the ownership and property interests therein, including but not limited to any intellectual property rights, copyrights, and/or patents, subject to the provisions set forth in Sections 5.2 through 5.5 below.

5.2 Owner's Limited License upon Project Completion and Payment in Full to Design-Builder. Upon Owner's payment in full for all Work performed under the Contract Documents, Design-Builder shall grant Owner a limited license to use the Work Product in connection with Owner's occupancy of the Project, conditioned on Owner's express understanding that its alteration of the Work Product without the involvement of Design-Builder is at Owner's sole risk and without liability or legal exposure to Design-Builder or anyone working by or through Design-Builder, including Design Consultants of any tier (collectively the "Indemnified Parties"), and on the Owner's obligation to provide the indemnity set forth in Section 5.5 herein.

5.3 Owner's Limited License upon Owner's Termination for Convenience or Design-Builder's Election to Terminate. If Owner terminates this Agreement for its convenience as set forth in Article 9 hereof, or if Design-Builder elects to terminate this Agreement in accordance with Section 11.4 of the General Conditions of Contract, Design-Builder shall, upon Owner's payment in full of the amounts due Design-Builder under the Contract Documents, grant Owner a limited license to use the Work Product to complete the Project and subsequently occupy the Project, and Owner shall thereafter have the same rights as set forth in Section 5.2 above, conditioned on the following:

5.3.1 Use of the Work Product is at Owner's sole risk without liability or legal exposure to any Indemnified Party, and on the Owner's obligation to provide the indemnity set forth in Section 5.5 herein, and

5.4 Owner's Limited License upon Design-Builder's Default. If this Agreement is terminated due to Design-Builder's default pursuant to Section 11.2 of the General Conditions of Contract, then Design-Builder grants Owner a limited license to use the Work Product to complete the Project and subsequently occupy the Project, and Owner shall thereafter have the same rights and obligations as set forth in Section 5.2 above. Notwithstanding the preceding sentence, if it is ultimately determined that Design-Builder was not in default, Owner shall be deemed to have terminated the Agreement for convenience, and Design-Builder shall be entitled to the rights and remedies set forth in Section 5.3 above.

5.5 Owner's Indemnification for Use of Work Product. Owner recognizes that in the event of an early termination of the Work, whether for convenience or for cause, Design-Builder will not have the opportunity to finish or to finalize its Work Product. Therefore, if Owner uses the Work Product, in whole or in part, or if Owner is required to indemnify any Indemnified Parties based on the use or alteration of the Work Product under any of the circumstances identified in this Article 5, Owner shall defend, indemnify, and hold harmless the Indemnified Parties from and against any and all claims, damages, liabilities, losses, and expenses, including attorneys' fees, arising out of or resulting from the use or alteration of the Work Product, to the fullest extent permitted by applicable law.

Article 6

Contract Time

6.1 Date of Commencement. The Design-Builder shall commence Phase 1 Services and Phase 2 services on the date established by the Owner in a written Notice to Proceed to be issued by the Owner with respect to each phase. The date of commencement of the Work shall be the date established in the written Notice to Proceed for Phase 2 Services ("Date of Commencement"). The Design-Builder shall commence work on Phase 2 Services under this Agreement on or after the Date of Commencement.

6.2 Substantial Completion, Interim Milestones, and Final Completion.

6.2.1 Substantial Completion of the entire Work shall be achieved no later than 51 months after the Notice to Proceed.

6.2.2 Interim milestones of identified portions of the Work shall be achieved as follows:

- Phase 1 Completion (60% Design and Guaranteed Maximum Price): Phase 1 NTP + 16 months.
- Phase 2 Completion: Phase 2 NTP + 36 months.

6.2.3 Final Completion of the Work or identified portions of the Work shall be achieved as expeditiously as reasonably practicable. Final Completion is the date when all Work is complete pursuant to the definition of Final Completion set forth in Section 1.2.7 of the General Conditions of Contract.

6.2.4 All of the dates set forth in this Article 6 ("Contract Time(s)") shall be subject to adjustment in accordance with the General Conditions of Contract.

6.3 Time is of the Essence. Owner and Design-Builder mutually agree that time is of the essence with respect to the dates and times set forth in the Contract Documents.

6.4 Liquidated Damages. Design-Builder understands that if Substantial Completion is not attained by the Scheduled Substantial Completion Date, Owner will suffer damages which are difficult to determine and accurately specify. Design-Builder agrees that if Substantial Completion is not attained by the Scheduled Substantial Completion Date (the "LD Date"), Design-Builder shall pay Owner two thousand Dollars (\$2,000) as liquidated damages for each day that Substantial Completion extends beyond the LD Date.

Design-Builder understands that if Final Completion is not achieved within thirty days of Substantial Completion Date, Owner will suffer damages which are difficult to determine and accurately specify. Design-Builder agrees that if Final Completion is not achieved within sixty (60) days of Substantial Completion, Design-Builder shall pay to Owner two thousand Dollars (\$2,000), as liquidated damages for each calendar day that Final Completion is delayed beyond the above-referenced number of days.

For clarification, liquidated damages shall apply to the Phase 2 Services only.

6.5 Any liquidated damages assessed pursuant to this Agreement shall be in lieu of all liability for any and all extra costs, losses, expenses, claims, penalties, and any other damages, whether special or consequential, and of whatsoever nature, incurred by Owner which are occasioned by any delay in achieving Substantial Completion, Interim Milestone Dates (if any) or Final Completion.

Article 7

Contract Price

7.1 Contract Price.

7.1.1 Owner shall pay Design-Builder in accordance with Article 6 of the General Conditions of Contract the sum of ___ for the Phase 1 Services, subject to adjustments made in accordance with the General Conditions of Contract. Unless otherwise provided in the Contract Documents, the Phase 1 Services compensation is deemed to include all sales, use, consumer and other taxes mandated by applicable Legal Requirements.

7.1.2 For Phase 2 Services, Owner shall pay Design-Builder in accordance with Article 7 of the General Conditions of Contract a contract price ("Contract Price") equal to the Lump Sum amount set forth in Section 7.2 hereof or in the Contract Price Amendment, or equal to the Design-Builder's Fee (as defined in Section 7.3 hereof), Design-Builder's General Conditions Fee (as defined in Section 7.4 hereof), plus the Cost of the Work (as defined in Section 7.5 hereof), subject to any GMP established in Section 7.6 hereof or as set forth in the Contract Price Amendment and any adjustments made in accordance with the General Conditions of Contract.

7.2 Lump Sum. Owner shall pay Design-Builder in accordance with Article 6 of the General Conditions of Contract the sum set forth in the Contract Price Amendment of _____ Dollars (\$) ("Contract Price") for the Work for Phase 2 Services, subject to adjustments made in accordance with the General Conditions of Contract. Unless otherwise provided in the Contract Documents, the Contract Price is deemed to include all sales, use, consumer and other taxes mandated by applicable Legal Requirements.

7.3 Design-Builder's Fee.

7.3.1 Design-Builder's Fee shall be:

_____ percent (_____ %) of the Cost of the Work.

7.4 Design-Builder's General Conditions Fee.

7.4.1 Design-Builder's General Conditions shall be:

_____ percent (_____ %) of the Cost of the Work.

7.4.2 Design-Builder's General Conditions include:

- (a) Design Builder's home office management personnel, e.g. President, General Manager, Operations Manager, Business Development Manager, Corporate Counsel, Health and Safety Director, Procurement Manager, Finance and Accounting Manager, Quality Assurance Manager, Estimators;
- (b) Project Management personnel including Project Executive, Project Manager, Deputy Project Manager, Construction Manager, Deputy Construction Manager, Resident Engineer, Safety Officer, Project Controls staff, superintendents, Quality Manager, contract administration staff, procurement staff, general clerical and administrative support staff, legal staff, estimators, finance, scheduling, and accounting staff, all Design-Builder staff, except those directly performing construction, shall be included in the General Conditions Fee;
- (c) status reporting; progress scheduling.
- (d) compliance notices.
- (e) coordination with the Owner's wastewater treatment division to allow the Owner to perform (i) continuous operation of facility, (ii) contract and subcontract administration.
- (f) trash removal for construction office.
- (g) project record keeping and documentation.
- (h) Tennessee Utilities Protection Services/Dig Safe program notice and coordination; (i) document control and record keeping; (j) project health and safety program including but not limited to equipment, supplies, training, medical monitoring, record keeping, plan development, incentives, audits and drills.
- (i) staff expense allowances.
- (j) personnel and site vehicle rental/mileage, fuel and maintenance; temporary lodging and per diem expense.
- (k) ice and water.
- (l) safety supplies.
- (m) drug testing.
- (n) communications equipment.
- (o) field/project offices including furnishings, office equipment, utilities, heat, office supplies, telephones, facsimile machines, internet connections, computers/networks/CADD machinery, janitorial, mail and shipping, security systems, office mobilization and demobilization.
- (p) badging and site security.
- (q) temporary fencing and barricades for construction office.
- (r) photography/progress photos.

- (s) tool trailer and hand tools.
- (t) project signage.
- (u) groundbreaking and dedication events.
- (v) portable toilets, lockers and washrooms.
- (w) temporary power.
- (x) business licenses.
- (y) patent fees and royalties.
- (z) training; and
- (aa) recruiting.

7.4.3 The General Conditions do not include costs for any of the items listed above that are included in subcontract agreements but only to the extent they apply to a given subcontractor's scope and not to the scope for the Project as a whole.

7.5 Cost of the Work.

7.5.1 The term Cost of the Work shall mean costs reasonably incurred by Design-Builder in the proper performance of the Work. The Cost of the Work shall include only the following:

7.5.1.1 The Design-Builder's Cost. The amount included in in all sealed bid packages provided by Design-Builder, and accepted by the Owner, or for the portions of the Work Design-Builder self-performs in accordance with the requirements of the Contract Documents.

7.5.1.2 The Subcontractor's Cost. The total amount of all Subcontracts and supplier contracts awarded for Work performed on the Project. Phase 2 design services as well as services during construction shall be included as cost of work.

7.5.1.3 Project related Phase 2 insurance, bonds, and taxes.

7.5.2 Non-Reimbursable Costs. The following shall be excluded from the Cost of the Work:

7.5.2.1 Compensation for Design-Builder's personnel stationed at Design-Builder's principal or branch offices, except as provided for in Sections 7.5.1 hereof.

7.5.2.2 Overhead and general expenses, except as provided for in Section 7.5.1 hereof, or which may be recoverable for changes to the Work.

7.5.2.3 The cost of Design-Builder's capital used in the performance of the Work.

7.5.2.4 If the parties have agreed on a GMP, costs that would cause the GMP, as adjusted in accordance with the Contract Documents, to be exceeded.

7.6 The Guaranteed Maximum Price.

7.6.1 Design-Builder guarantees that it shall not exceed the GMP set forth in the Contract Price Amendment. Documents used as a basis for the GMP shall be identified in the Contract Price Amendment to this Agreement. Design-Builder does not guarantee any specific

line item provided as part of the GMP and has the sole discretion to apply payment due to overruns in one line item to savings due to underruns in any other line item. Design-Builder agrees, however, that it will be responsible for paying all costs of completing the Work which exceed the GMP, as adjusted in accordance with the Contract Documents.

7.6.2 The GMP includes a Contingency in the amount set forth in the Contract Price Amendment, which is available for Design-Builder's exclusive use for unanticipated costs it has incurred that are not the basis for a Change Order under the Contract Documents. By way of example, and not as a limitation, such costs may include: (a) trade buy-out differentials; (b) overtime or acceleration; (c) escalation of materials; (d) correction of defective, damaged or nonconforming Work, design errors or omissions, however caused; (e) Subcontractor defaults; or (f) those events under Section 8.2.2 of the General Conditions of Contract that result in an extension of the Contract Time but do not result in an increase in the Contract Price. The Contingency is not available to Owner for any reason, including changes in scope or any other item which would enable Design-Builder to increase the GMP under the Contract Documents. Design-Builder shall provide Owner notice of all anticipated charges against the Contingency and shall provide Owner as part of the monthly status report required by Section 2.1.2 of the General Conditions of Contract an accounting of the Contingency, including all reasonably foreseen uses or potential uses of the Contingency in the upcoming three (3) months. Design-Builder agrees that with respect to any expenditure from the Contingency relating to a Subcontractor default or an event for which insurance or bond may provide reimbursement, Design-Builder will in good faith exercise reasonable steps to obtain performance from the Subcontractor and/or recovery from any surety or insurance company. Design-Builder agrees that if Design-Builder is subsequently reimbursed for said costs, then said recovery will be credited back to the Contingency.

7.6.3 Savings.

7.6.3.1 If the sum of the actual Cost of the Work and Design-Builder's Fee (and, if applicable, any prices established under Section 7.1.3 hereof) is less than the GMP, as such GMP may have been adjusted over the course of the Project, the difference ("Savings") shall be shared as set forth in the Contract Price Amendment.

7.6.3.2 Savings shall be calculated and paid as part of Final Payment under Section 8.4 hereof, with the understanding that to the extent Design-Builder incurs costs after Final Completion which would have been payable to Design-Builder as a Cost of the Work, the parties shall recalculate the Savings in light of the costs so incurred, and Design-Builder shall be paid by Owner accordingly.

7.7 Allowance Items and Allowance Values.

7.7.1 Any and all Allowance Items, as well as their corresponding Allowance Values, are set forth in the Contract Price Amendment or the Proposal.

7.7.2 Design-Builder and Owner have worked together to review the Allowance Items and Allowance Values based on design information then available to determine that the Allowance Values constitute reasonable estimates for the Allowance Items. Design-Builder and Owner will continue working closely together during the preparation of the design to develop Construction Documents consistent with the Allowance Values. Nothing herein is intended in any way to constitute a guarantee by Design-Builder that the Allowance Item in question can be performed for the Allowance Value.

7.7.3 No work shall be performed on any Allowance Item without Design-Builder first obtaining in writing advanced authorization to proceed from Owner. Owner agrees that if Design-Builder is not provided written authorization to proceed by the date set forth in the Project schedule, due to

no fault of Design-Builder, Design-Builder may be entitled to an adjustment of the Contract Time(s) and Contract Price.

7.7.4 The Allowance Value includes the direct cost of labor, materials, equipment, transportation, taxes, and insurance associated with the applicable Allowance Item. All other costs, including design fees, Design-Builder's overall project management and general conditions costs, overhead and Fee, are deemed to be included in the original Contract Price, and are not subject to adjustment notwithstanding the actual amount of the Allowance Item.

7.7.5 Whenever the actual costs for an Allowance Item is more than or less than the stated Allowance Value, the Contract Price shall be adjusted accordingly by Change Order, subject to Section 7.7.4. The amount of the Change Order shall reflect the difference between actual costs incurred by Design-Builder for the particular Allowance Item and the Allowance Value.

Article 8

Procedure for Payment

8.1 Payment for Phase 1 Services. Design-Builder and Owner agree upon Phase 1 Services will be invoiced and paid monthly. Design-Builder and Owner shall agree upon a milestone based schedule of values and will agree upon percent complete for each line item. Retainage will not be withheld for Phase 1 Services.

8.2 Contract Price Progress Payments.

8.2.1 Design-Builder shall submit to Owner on the twentieth (20th) day of each month, beginning with the first month after the Date of Commencement, Design-Builder's Application for Payment in accordance with Article 6 of the General Conditions of Contract.

8.2.2 Owner shall make payment within thirty (30) days after Owner's receipt of each properly submitted and accurate Application for Payment in accordance with Article 6 of the General Conditions of Contract, but in each case less the total of payments previously made, and less amounts properly withheld under Section 6.3 of the General Conditions of Contract.

8.2.3 If Design-Builder's Fee under Section 7.3 hereof is a fixed amount, the amount of Design-Builder's Fee to be included in Design-Builder's monthly Application for Payment and paid by Owner shall be proportional to the percentage of the Work completed, less payments previously made on account of Design-Builder's Fee.

8.2.4 The Design-Builder will supply the City with all information necessary for the City to verify the amounts due to the Design-Builder, including but not limited to daily job logs, employee time records, internal job cost reports, original invoices for materials and equipment and documents showing that the Design-Builder has paid for such materials and equipment, and so as to verify that amounts due laborers, subcontractors, and material suppliers have been paid to them. Invoices in excess of \$1,000.00 shall be submitted with each payment application. The failure to provide such information shall be justification for withholding payment to the Design-Builder.

8.2.5 The City intends to conduct audits of the Design-Builder's records regarding the Project at times to be determined by the City provided that the final audit shall not unreasonably delay final payment to the Design-Builder. The audits will be performed by a firm experienced in auditing construction contracts.

8.3 Retainage on Contract Price Progress Payments.

8.3.1 Owner will retain ten percent (10%) of each Application for Payment provided, however, that when fifty percent (50%) of the Work has been satisfactorily completed by Design-Builder and Design-Builder is otherwise in compliance with its contractual obligations, Owner will not retain any additional retention amounts from Design-Builder's subsequent Applications for Payment. Owner will also reasonably consider reducing retainage for Subcontractors completing their work early in the Project.

8.3.2 Within thirty (30) days after Substantial Completion of the entire Work or, if applicable, any portion of the Work, pursuant to Section 6.6 of the General Conditions of Contract, Owner shall release to Design-Builder all retained amounts relating, as applicable, to the entire Work or completed portion of the Work, less an amount equal to: (a) the reasonable value of all remaining or incomplete items of Work as noted in the Certificate of Substantial Completion; and (b) all other amounts Owner is entitled to withhold pursuant to Section 6.3 of the General Conditions of Contract.

8.4 Final Payment. Design-Builder shall submit its Final Application for Payment to Owner in accordance with Section 6.7 of the General Conditions of Contract. Owner shall make payment on Design-Builder's properly submitted and accurate Final Application for Payment (less any amount the parties may have agreed to set aside for warranty work) within ten (10) days after Owner's receipt of the Final Application for Payment, provided that: (a) Design-Builder has satisfied the requirements for final payment set forth in Section 6.7.2 of the General Conditions of Contract.

8.5 Record Keeping and Finance Controls. Design-Builder acknowledges that this Agreement is to be administered on an "open book" arrangement relative to Costs of the Work. Design-Builder shall keep full and detailed accounts and exercise such controls as may be necessary for proper financial management, using accounting and control systems in accordance with generally accepted accounting principles and as may be provided in the Contract Documents. During the performance of the Work and for a period of three (3) years after Final Payment, Owner and Owner's accountants shall be afforded access to, and the right to audit from time to time, upon reasonable notice, Design-Builder's records, books, correspondence, receipts, subcontracts, purchase orders, vouchers, memoranda, and other data relating to the Work, all of which Design-Builder shall preserve for a period of three (3) years after Final Payment. Such inspection shall take place at Design-Builder's offices during normal business hours unless another location and time is agreed to by the parties. Any multipliers or markups agreed to by the Owner and Design-Builder as part of this Agreement are only subject to audit to confirm that such multiplier or markup has been charged in accordance with this Agreement, but the composition of such multiplier or markup is not subject to audit. Any lump sum agreed to by the Owner and Design-Builder as part of this Agreement is not subject to audit.

Article 9

Termination for Convenience

9.1 Upon ten (10) days' written notice to Design-Builder, Owner may, for its convenience and without cause, elect to terminate this Agreement. In such event, Owner shall pay Design-Builder for the following:

9.1.1 All Work executed; and

9.1.2 The reasonable costs and expenses attributable to such termination, including demobilization costs and amounts due in settlement of terminated contracts with Subcontractors and Design Consultants. However, nothing in Section 9.1 authorizes the recovery of consequential damages, which are waived by Section 10.5 of the General Conditions.

Article 10

Representatives of the Parties

10.1 Owner's Representatives.

10.1.1 Owner designates the individual listed below as its Senior Representative ("Owner Senior Representative"), which individual has the authority and responsibility for avoiding and resolving disputes under Section 10.2.3 of the General Conditions of Contract: *(Identify individual's name, title, address, and telephone numbers.)*

10.1.2 Owner designates the individual listed below as its Owner's Representative, which individual has the authority and responsibility set forth in Section 3.4 of the General Conditions of Contract: *(Identify individual's name, title, address, and telephone numbers.)*

10.2 Design-Builder's Representatives.

10.2.1 Design-Builder designates the individual listed below as its Senior Representative ("Design-Builder's Senior Representative"), which individual has the authority and responsibility for avoiding and resolving disputes under Section 10.2.3 of the General Conditions of Contract: *(Identify individual's name, title, address, and telephone numbers.)*

10.2.2 Design-Builder designates the individual listed below as its Design-Builder's Representative, which individual has the authority and responsibility set forth in Section 2.1.1 of the General Conditions of Contract: *(Identify individual's name, title, address, and telephone numbers.)*

10.2.3 The parties agree that as a material inducement for Owner's execution of this Agreement and, if applicable, the Contract Price Amendment, Design-Builder will dedicate the Key Design and Supervisory Personnel set forth in Exhibit G to the Project. Design-Builder will not change its Key Design and Supervisory Personnel, or materially modify their responsibilities for the Project, without Owner's express written consent.

Article 11

Bonds and Insurance

11.1 Insurance. Design-Builder and Owner shall procure the insurance coverages set forth in the Insurance Exhibit C attached hereto and in accordance with Article 5 of the General Conditions of Contract. The Automobile Liability Insurance, Commercial General Liability Insurance, and Excess Umbrella Liability Insurance Policies shall designate the Owner as additional insureds.

11.2 Bonds and Other Performance Security. Design-Builder shall provide performance and payment bonds based on Contract Price as shown in Exhibit H.

11.2.1. Performance Bond: Design-Builder shall provide a performance bond in the amount of 100% of the GMP Proposal established pursuant to Section 7.6 conditioned upon the faithful performance of all Design-Builder's obligations under the Contract Documents in accordance with the plans, specifications and conditions thereof. Said bond shall be solely for the protection of the Owner. Design-Builder shall increase the amount of the performance bond with any amendment increasing the Contract Price.

11.2.2. Payment Bond: Design-Builder shall provide a labor and material payment bond in the amount of 100% of the GMP Proposal established pursuant to Section 7.6 solely for the protection of persons supplying labor or materials, or renting, leasing, or otherwise supplying

equipment to the contractor or his subcontractors in the prosecution of the Work provided for in such contract. Design-Builder shall increase the amount of the payment bond with any amendment increasing the Contract Price.

11.3. Project Guarantee: The Owner reserves the right to require a Parent Guaranty as part of the Guaranteed Price Proposal whereby Design-Builder's parent company shall guarantee Design-Builder's obligations under the Contract Documents. In such event, Owner and Design-Builder shall negotiate the terms of the Parent Guaranty set forth in Exhibit L prior to the commencement of the Phase 2 Services.

11.4. Design-Build Warranty: If the parties agree to a Guaranteed Price Proposal, then in addition to other promises and warranties contained in the Contract Documents, Design-Builder specifically warrants to the Owner that the Work, including but not limited to equipment and materials shall be new unless otherwise specified in the Contract Documents, of good quality, in conformance with the Contract Documents and free of defects in materials and workmanship. Further, Design-Builder specifically warrants to the Owner that all Work will be free from defects not inherent in the quality required or permitted and conform with the requirements and specifications of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective under Section 2.10 of the General Conditions of Contract. This Design-Builder's warranty excludes defects caused by abuse, modifications not executed by the Design-Builder, improper or insufficient maintenance, improper operation, or normal wear and tear under normal usage. Neither Substantial Completion, successful completion of the Acceptance Test, Acceptance, Final Payment nor any provision in the Contract Documents nor occupancy of the Project by the Owner shall constitute an acceptance of Work not done in accordance with the Contract Documents or relieve the Design-Builder of liability in respect to any expressed or implied warranties or responsibility for defective Work. This Design-Build Warranty will continue for one (1) year following Substantial Completion. Warranty work completed during the warranty period will result in an additional one (1) year warranty for the replaced or repaired item.

11.5. Securing and Assigning Manufacturer's Warranties: Design-Builder will work with the Owner to identify requirements for manufacturer's equipment and materials warranties including the need for any extended warranties. Manufacturer warranties shall begin after Acceptance. Design-Builder shall be responsible for any costs associated with warranties, provided that Owner shall pay premiums for extended warranties requested or required by Owner. The Design-Builder is responsible for obtaining agreed-to equipment warranties and assigning them to the Owner. The time periods for all extended warranties shall be agreed upon as part of the Contract Price Amendment.

11.6. Performance Warranty: The Owner reserves the right to require a Performance Warranty as part of the Guaranteed Price Proposal whereby the Design-Builder shall warrant that the Project will continue to perform in a manner consistent with the Performance Standards set forth in the Owner's Project Criteria, Exhibit A. Any such Performance Warranties and Performance Standards will be developed collaboratively between Owner and Design-Builder during the Phase 1 Services and shall be a part of the GMP negotiation process. The Performance Warranty period shall be for up to two (2) years following Acceptance and shall be accompanied by an agreement with the Design-Builder for operations and maintenance support and oversight during the Performance Warranty Period.

Article 12

Other Provisions

12.1 Other provisions, if any, are as follows:

12.2 Listing of Exhibits and documents incorporated herein:

Exhibit A – Scope of Services
Exhibit B – General Conditions
Exhibit C – WIFIA Information
Exhibit D – Insurance Requirements

- Exhibit D – Form of Contract Price Amendment
- Exhibit F – Key Design & Supervisory Personnel
- Exhibit G – Form of Performance and Payment Bonds
- Exhibit H – Form of Waiver of Liens and Bond Claims
- Exhibit I – Form of Consent of Surety to Final Payment
- Exhibit J – Forms for Affirmation of Compliance
- Exhibit K – Guaranty Agreement

Article 13

Limitation of Liability

13.1 To the fullest extent permitted by law, and notwithstanding any other provision of this Agreement, the total liability, in the aggregate, of Design-Builder, its Design Consultants, and Subcontractors, surety (if any) and their respective officers, directors, employees, and agents, and any of them, to Owner and anyone claiming by, through or under Owner, for any and all claims, losses, liabilities, costs, or damages whatsoever arising out of, resulting from, or in any way related to, the Project or this Agreement from any cause, including but not limited to the negligence, indemnity, professional errors or omissions, strict liability, breach of contract, or warranty (express or implied) shall not exceed one-hundred percent (100%) of the Contract Price, as may be amended according to the provisions contained elsewhere in the Contract Documents. The parties agree that specific consideration has been given by the Design-Builder for this limitation and that it is deemed adequate.

In executing this Agreement, Owner and Design-Builder each individually represents that it has the necessary financial resources to fulfill its obligations under this Agreement, and each has the necessary corporate approvals to execute this Agreement, and perform the services described herein.

OWNER:

DESIGN-BUILDER:

(Name of Owner)

(Name of Design-Builder)

(Signature)

(Signature)

(Printed Name)

(Printed Name)

(Title)

(Title)

Date: _____

Date: _____

Exhibit A
Scope of Services

Exhibit A

Scope of Services

Preliminary Scope of Work for Phase 1 Services

[The negotiations for the GMP will include Final Design, Services During Construction, etc. Scope of Work and will be included as an Exhibit to the Contract Amendment]

PROJECT SCOPE AND FEATURES

The following list summarizes the anticipated major Project features:

- Aeration
- Nitrification
- Class A Biosolids

SCOPE OF WORK FOR PHASE 1 SERVICES TASKS:

The Scope of Work for Phase 1 Services shall include the following tasks:

- Task 1. Phase 1 Project Management
- Task 2. Phase 1 Meetings
- Task 3. Surveying, Mapping, and Utility Locates
- Task 4. Geotechnical, Hydrogeological, and Environmental Evaluation
- Task 5. Permitting and Approvals
- Task 6. Alternatives Analysis and Project Definition
- Task 7. Design through 60 Percent
- Task 8. Cost Estimating, Scheduling, and Constructability Reviews
- Task 9: Guaranteed Maximum Price Proposal

Required deliverables for each Phase 1 Services Task are identified in this Scope of Work. All Deliverables shall be reviewed with the Owner. The Design-BUILDER shall promptly correct deficiencies and shall make modifications to conform to Project requirements and achieve acceptability to the Owner.

Draft and final deliverables shall be provided to the Owner in electronic native and PDF formats, submitted through eBuilder. In addition, the final versions of the following documents (if applicable to the Project) must be submitted as paper copies to comply with state document retention policies: Environmental Assessments, Geotechnical Reports, and Final Flow Modeling/Monitoring Reports.

Note that the Design Services Fee includes the total compensation for all Phase 1 and Phase 2 services provided by the Engineer of Record and their subconsultants, and the Preconstruction Fee includes effort by the contractor and subcontractors during Phase 1 (i.e., through the Contract Price Amendment). This Phase 1 Scope of Work identifies Phase 1 work activities, as well as Phase 2 work activities for the Engineer of Record and their subconsultants that are covered by the Design Services Fee. Work that will take place in Phase 2 (e.g., completion of design post-GMP, and design support during construction) are noted as such.

Specific tasks and subtasks for Phase 1 Services are described below.

TASK 1. PHASE 1 PROJECT MANAGEMENT

Design-Builder shall provide all necessary project management and coordination throughout Phase 1. Project management shall include the following activities.

Subtask 1.1. Project Coordination and Communication

Design-Builder shall be responsible for all required coordination and communication within its team. Communication with the City shall include Progress and Coordination Meetings (see Subtask 2.2) and any other written or verbal communication needed to communicate and address project coordination, issues, and needs as they arise.

Subtask 1.2. Project Progress Tracking and Reporting

The Design-Builder shall actively track Phase 1 progress, including:

- Developing a Baseline Project Schedule. The Baseline Project Schedule shall, at a minimum, include the following elements:
 - Activities for each required permit or approval: development of the permit application, 2 weeks for Owner review of the application, permit application revisions / submittal, additional review times, and expected date of issuance (including permits anticipated to be obtained in Phase 2).
 - Activities for each task, sub-task, and deliverable in the Scope of Work for Phase 1 Services, including but not limited to:
 - Planning for and conducting field investigations.
 - Conducting evaluations and analyses.
 - Preparing design documents and other deliverables.
 - Owner review periods for deliverables.
 - GMP Proposal.
 - Contract Price Amendment negotiations.
 - Owner Contract Price Amendment approval period (assume 2 months).
 - Anticipated date for Contract Price Amendment execution.
 - Conducting other activities.
 - Planned Deliverable submittal dates, including draft deliverable submission dates, Owner review periods (assume two weeks for most deliverables, and three weeks for milestone [30%, 60%, GMP proposal, 90%, final] submittals), and final deliverable submission dates.
 - Start and finish dates for each activity.
 - Meeting dates.
 - Major milestones.
 - Critical path analysis.
 - Float.
 - Anticipated Phase 2 activity timelines (e.g., construction planning activities, construction activities, testing, startup, commissioning, Acceptance Testing, warranty periods, etc.).

- Tracking progress against the Baseline Project Schedule and developing updated Project Baseline Schedules as needed.
- Identifying and resolving potential scope and schedule changes.
- Identifying and tracking Project issues / action items using an Issue Log, and resolving them in a timely manner.

The Design-Builder shall submit monthly reports summarizing Project progress. The monthly progress reports shall include a narrative summarizing the progress of the Project and shall identify any recommended actions by the Owner or the Design-Builder to mitigate risks or modify the Project approach and scope. Attachments to the monthly progress report shall include:

- Monthly progress schedule showing the status of activities against the Baseline Schedule.
- Any recommended modifications to the Baseline Schedule (changes in activities or logic) for Owner approval.
- Updated Issue, Change, Decision, and Action Item Log(s).
- Updated Risk Register.
- Monthly invoice and backup.
- Budget status updates.
- Monthly updates suitable to support public outreach activities by the Owner.

Subtask 1.3. Project Management Plan

Within 30 days of Design-Builder notice-to-proceed, the Design-Builder shall prepare a Phase 1 Project Management Plan (PMP) for review and concurrence by the Owner and to communicate basic Project requirements and approach to its Project team and subconsultants and subcontractors. The PMP shall include, at a minimum, the following sections:

- Communications Plan
- Risk Management Strategy
- Submittal Protocol
- Document Control
- Meeting Schedule (for meetings outlined in Task 2)

Subtask 1.4. Health and Safety Plan

Within 30 days of Design-Builder notice-to-proceed, the Design-Builder shall develop a draft Phase 1 Health and Safety Plan (Phase 1 HASP) and provide the document as a draft for Owner review. Following receipt of Owner comments, the Design-Builder shall prepare a final Phase 1 HASP. Throughout Phase 1, the Design-Builder shall implement all aspects of its Phase 1 HASP and shall ensure that all Project personnel and subconsultants are familiar with and implement the Phase 1 HASP requirements.

Subtask 1.5. Quality Management Plan

Within 30 days of Design-Builder notice-to-proceed, the Design-Builder shall update as necessary the draft Phase 1 Quality Management Plan (Phase 1 QMP) included in their Proposal and provide the document as a draft for Owner review. The Plan shall identify quality control reviews to be completed, at a minimum, prior to each deliverable to the Owner. Following receipt of Owner comments, the Design-Builder shall prepare a final Phase 1 QMP. Throughout Phase 1, the Design-Builder shall implement all aspects of its Phase 1 QMP and shall ensure that all project personnel and subconsultants are familiar with and implement the Phase 1 QMP's requirements.

Subtask 1.6. Risk Management

Task 1 shall also include overall Project risk management, including both Phase 1 and Phase 2 risks that become evident as the Project development progresses. The Design-Builder shall prepare and provide updates to a Project Risk Register that includes the following information:

- Risk identification and description.
- Estimated percent likelihood that risk may occur.
- Potential schedule impact should risk occur.
- Potential cost impact should risk occur.
- Potential quality or other impact should risk occur.
- Risk management / mitigation strategy.

The Design-Builder shall update the Risk Register for submittal to the Owner at major decision or design submittal milestones, or when significant changes to the project risk profile or risk mitigation strategies occur.

Task 1 Deliverables:

- Project Management Plan
- Draft and Final Phase 1 Health and Safety Plan
- Draft and Final Phase 1 Quality Management Plan
- Risk Register (periodic updates as risk status changes or new risks are identified)
- Monthly Progress Reports, including all required attachments.

TASK 2. PHASE 1 MEETINGS:

The Design-Builder shall schedule, prepare for, and conduct meetings with the Owner necessary for Project coordination, communication, and decision making. At a minimum, Project meetings shall include the following:

Subtask 2.1. Project Kickoff Meeting

The Design-Builder shall schedule, prepare for, and conduct a Project Kickoff Meeting with the City, including key firms and individuals from the Design-Builder's project team, and City project team members. The Project Kickoff Meeting is intended to confirm project procedures and communications protocols, critical success factors, project scope, schedule and deliverable milestones, and work sequencing, including any proposed Early Work Packages.

As an element of the Project Kickoff Meeting, the Design-Builder shall organize a 1-day partnering exercise with a third-party facilitator, intended to foster open communication, trust, understanding, and teamwork between the Design-Build team and the City project team.

Subtask 2.2. Progress and Coordination Meetings

The Design-Builder shall schedule, facilitate and participate in monthly project progress meetings with the Owner. Progress meetings shall provide a routine forum for reviewing items included in the monthly progress report, discussing ideas, and confirming short-term and long-term Project priorities. The focus is intended to be on monthly project management reporting and planning.

The Design-Builder shall schedule, facilitate and participate in weekly project coordination meetings with the Owner. Coordination meetings shall provide a routine forum for discussing Project status and addressing short-term coordination items. The focus is intended to be on coordination of ongoing work activities and deliverables. Coordination meetings may be conducted by conference call.

Subtask 2.3. Technical Workshops

The Design-Builder shall schedule, facilitate and attend technical working meetings, focused on specific topics, with the Owner. Meeting topics may include, as needed:

- Field investigation results and implications (e.g., Geotechnical and hydrogeological; surveying and mapping).
- Alternatives, layout and configuration analysis.
- Control systems and strategies.
- Coordination with existing facilities and processes.
- Design/construction phasing, including permitting review and approvals.
- Cost modeling/estimating and project scheduling.
- Basis of Design, 30 and 60 percent design review.

Subtask 2.4. Guaranteed Maximum Price Proposal Workshop

After delivery of the draft Guaranteed Maximum Price (GMP) Proposal, the Design-Builder shall meet with the Owner during a workshop to present, review, and answer questions about the content of the GMP Proposal. The Design-Builder will conduct additional workshops and meetings as needed to obtain Owner agreement.

All effort for coordinating working meetings, developing agendas and meeting notes, preparing working meeting materials, and conducting working meetings is included under this task.

Task 2 Deliverables:

- Kickoff meeting and partnering session: Draft and final meeting agenda and draft and final meeting notes
- Progress meetings: Draft and final meeting agendas and draft and final meeting notes
- Coordination meetings: Draft and final meeting agendas and draft and final meeting notes
- Technical workshops: Topic-specific working meeting materials and draft and final working meeting agendas and notes
- GMP workshops and follow-up meetings: Draft and final meeting agendas and draft and final meeting notes

TASK 3. SURVEYING, MAPPING, AND UTILITY LOCATES

The Design-Builder shall conduct a field survey of the project site and prepare survey base maps adequate for the Design-Builder's design. Survey work shall be performed by a Professional Land Surveyor licensed in Tennessee. The base maps shall include, at a minimum:

- Topographic data for project site from ground survey.
- Existing structures and facilities.
- Visible surface features including, but not limited to roadways, curbs, sidewalks, trails, manholes and other utility markers, valves and access points, trees, etc.

Subtask 3.1. Surveying, Mapping, and Utility Locates

The Design-Builder shall conduct field utility location and potholing activities as needed to confirm the location of key utilities and potential utility conflicts, in order to support design and reduce construction phase risk. The Design-Builder shall conduct potholing of known utilities identified in record drawing review, that could impact the location of Project features. Potholing will include, as applicable, application for a right-to-enter permit, traffic control, and backfill and roadway restoration of excavations. The Design-Builder shall identify potholing locations and incorporate locations of utilities into the project basemaps.

Task 3 Deliverables:

- Draft and final survey and utility locating work plan.
- Site survey files
- Utility locating and potholing results, incorporated into project basemaps

TASK 4. GEOTECHNICAL, HYDROGEOLOGICAL, AND ENVIRONMENTAL EVALUATION

The Design-Builder's work under this task is intended to meet the following objectives:

- Provide information to inform the Design-Builder's analysis of alternatives, design, and construction, including geotechnical and dewatering design criteria, siting of improvements, foundation design, levee design, disposal of excavated material, and construction methods.
- Develop a Geotechnical Evaluation Report.
- Identify any anticipated soil or groundwater contamination, the types of contamination, and the appropriate methods for transport and disposal, including disposal locations.
- Characterize groundwater to support selection and design of appropriate construction and dewatering methodologies.

Work under this task shall be performed by a geotechnical engineer licensed in the State of Tennessee and by appropriately certified hydrogeologists and specialists in management of contaminated soils and groundwater, as applicable.

To meet these objectives, the Design-Builder shall conduct the following sub-tasks:

Subtask 4.1 Geotechnical and Hydrogeological Investigations

The Design-Builder shall conduct geotechnical and hydrogeological investigations to characterize the subsurface soil and groundwater conditions at the site within the limits of the proposed improvements. A soil boring program shall be developed that will be sufficient to adequately investigate these conditions for each aspect of the project, including but not limited to the following:

- Above and below grade tank structures.
- Equipment or other ancillary structures.
- Proposed new driveways or parking aprons.
- Proposed subsurface piping.

The number and depth of borings shall be determined by the Design-Builder, and shall be sufficient to complete and support all necessary design evaluations, to characterize the subsurface conditions sufficiently to minimize the potential for change conditions during construction, and to support all final design activities.

The Design-Builder shall develop a boring plan and program for the site and submit these items to the Owner for review and approval prior to mobilizing to the site. The Design-Builder shall be responsible for marking all borings in the field, ensuring that all borings are located away from existing utilities and any other services within the area of work, obtaining all necessary permitting or entry agreements (as

applicable), and ensuring that all soil borings are abandoned in accordance with applicable Owner requirements. Soil boring locations shall be captured by the survey conducted in Subtask 3.1 and included in the Project basemap.

The Design-Builder shall also be responsible for investigating the hydrogeologic conditions at the site to determine the static groundwater conditions for design of the site structures as well as for determination of dewatering requirements. As a baseline, a minimum of two groundwater monitoring wells should be installed at the site for long term monitoring at locations to be determined by the Design-Builder. The depth of the wells will be dependent on the soil and groundwater conditions encountered, but a depth of 40 feet can be considered in the baseline estimate. Long term monitoring of the wells using piezometers, or another method approved by the Owner shall be performed for a period of no less than six (6) months to establish the static groundwater elevation and to determine the seasonal fluctuation in the groundwater.

Subtask 4.1 Deliverables:

- Boring Plan and Program
- Proposed well installation and monitoring procedure.

Subtask 4.2 Geotechnical Evaluation Report

The Design-Builder shall conduct geotechnical laboratory tests on selected soil samples obtained from field investigations from Subtask 4.1 to evaluate the engineering and index properties of the subsurface materials. Testing shall include at a minimum the following testing (list is not exhaustive and additional testing may be warranted based on the final improvements and evaluation required):

- Moisture Content
- Atterberg Limits
- Gradation Analysis
- Unconfined Compression Test (Soil)
- Consolidation Test
- Triaxial Test (UU and CU)
- Hydraulic Conductivity Test
- Corrosivity Testing (pH, resistivity, chloride, sulfate, etc.)

Based on field investigations and the test results, the Design-Builder shall develop a Geotechnical Evaluation Report to support alternatives analysis, support selection of construction methods (including shoring and dewatering methods) and define geotechnical/structural design criteria. The report shall include the following specific items at a minimum:

- Site plan showing approximate exploration locations on a base map.
- Descriptive logs of subsurface explorations
- Description of surface materials, subsurface soils, groundwater, and seismic conditions
- Conclusions regarding liquefaction potential (if applicable)
- Conclusions regarding soil corrosivity
- Recommended seismic design parameters.
- Recommendations for site preparation
- Recommendations concerning potential utility trench excavations, including temporary slope angles and design criteria for shoring, as applicable.

- Recommendations concerning trench backfill.
- Ground and groundwater conditions relevant to the selection of construction and dewatering methods
- Recommendations concerning ground stabilization (if required); considerations should include over excavation and replacement, deep foundations or ground improvement methods, as applicable.
- Recommended design criteria for structures, including recommended foundation type (shallow or deep foundations) for both bearing capacity and uplift resistance.
- Recommended design criteria for pipes, including need for stabilization, as applicable.
- Recommended design criteria for levee extensions, including evaluation of the global (slope) stability to identify the required slope inclination as well as permeability of the existing soils and any required measure to mitigate seepage under the levee embankments.
- Recommendations for construction monitoring

The Design-Builder shall provide a copy of the draft Geotechnical Evaluation Report to the Owner for review and comment. The Owner will review the draft Geotechnical Evaluation Report and meet with the Design-Builder to resolve questions. Owner comments on the geotechnical evaluation shall be limited to requests for clarification and questions and shall not modify the results of the evaluation or recommended criteria. The Design-Builder shall prepare a final Geotechnical Evaluation Report for approval by the Owner within two weeks of receipt of Owner comments.

Subtask 4.3 Deliverables:

- Draft and Final Geotechnical Evaluation Report

TASK 5. PERMITTING AND APPROVALS

The Design-Builder shall conduct all necessary activities to obtain permits and approvals identified as Design-Builder responsibility in the Owner’s Project Criteria, and any other permits or approvals not included in the Owner’s Project Criteria that are determined to be required.

Task 5 Deliverables:

- Draft, final, and revised applications for all permits and approvals listed as Design-Builder Responsibility in the City’s Project Criteria and the Design-Builder’s Project Permitting and Approvals Plan.
- Draft, final and revised technical studies or evaluations for permit applications (in addition to those developed under other Phase 1 Tasks).
- Draft and final agenda and draft and final meeting minutes from meetings with permitting entities.

TASK 6. ALTERNATIVES ANALYSIS AND PROJECT DEFINITION

The Design-Builder shall conduct evaluations and assessments necessary to identify and evaluate Project alternatives. The Design-Builder shall review and develop necessary information and requirements to support alternatives analysis and Owner decision-making on the Project, including what technologies and configurations will be implemented and other project elements.

The Design-Builder shall conduct an alternatives analysis for the Project. The outcome of the alternatives analysis shall be a recommended Project configuration, including recommended processes and technologies for all improvements, and recommended layout of facilities.

At a minimum, the Design-Builder shall:

- Develop assumptions, constraints, evaluation criteria and evaluation methods for the analysis of Project alternatives, including confirmation of the process requirements, permitting and regulatory requirements, subsurface conditions (e.g., soils, groundwater, site contamination), and interface with existing infrastructure and utilities. Confirm the assumptions, constraints, evaluation criteria, and evaluation methods with the Owner in a working meeting.
- Develop cost estimates, schedules, risk analyses, pros / cons analyses and other information to support the comparison of alternatives.
- Develop cost estimates for on-going operations, maintenance, and major renewals.
- Develop a matrix for the purpose of comparing alternatives based on the mutually agreeable evaluation criteria and methods, including estimated Net Present Value (NPV) lifecycle cost.
- Consult with the Owner to develop and review alternatives, and to select the Project configuration.
- Develop and submit a draft Alternatives Analysis Technical Memorandum (TM) for each set of alternatives considered documenting methods and findings for Owner review. Submit final Alternatives Analysis TM incorporating Owner's review comments.

Task 6 Deliverables:

- Draft and final list of alternatives
- Draft and final Alternatives Analysis TM

TASK 7. DESIGN THROUGH 60 PERCENT

The Design-Builder shall develop and submit design reports and submittals, including a Basis of Design Report, drawings, specifications, cost estimates, and Project schedules. The Design-Builder shall conduct constructability reviews to support and refine the approach for design and construction.

The design through 60 percent shall provide sufficient definition of Project features to support development of the Design-Builder's GMP Proposal and Owner review and approval of the GMP Proposal.

Following the Contract Price Amendment, the Design-Builder is expected to continue development of design, including submittal of a draft 90% design package for Owner review and comment, and submittal of final stamped construction documents to the Owner.

Subtask 7.1. Basis of Design Report

The Design Builder shall prepare and deliver a draft Basis of Design Report (BODR) for the Project alternative selected following alternatives analysis.

At a minimum, the BODR shall include the following:

- Project summary, goals/objectives, and requirements.
- Alternatives considered and selected for design and construction, including how the work to be completed is optimized for the Owner's objectives and requirements.
- Expanded list of design criteria, including demonstrated consistency with the requirements and standards in the Owner's Project Criteria.
- Site constraints including constraints imposed by site access and operations, permits and approvals, regulatory requirements, seasonal constraints, and other factors.
- Design concepts and other criteria for the new facilities
- Engineering analyses and calculations supporting the design.

- Safety and control considerations, including how each system will work, and risks and mitigation measures for potential modes of failure.
- Preliminary testing criteria, including Acceptance Testing.
- QA/QC documentation.

Submit the draft BODR to the Owner, in advance of the 30 percent design submittal so that feedback from the BODR review can be incorporated into 30 percent design documents. The Owner will provide review comments on the BODR within 3 weeks.

Revise the BODR in response to the Owner's comments, as appropriate, and submit the revised BODR (with responses to Owner comments) to the Owner within 4 weeks of receipt of Owner's comments.

Subtask 7.1 Deliverables:

- Draft and final Basis of Design Report.

Subtask 7.2 30 Percent Design Submittal

After the revised BODR submittal to the Owner, the Design-Builder shall submit its 30 percent design submittal including:

- 30 percent drawings.
- 30 percent specifications.
- Design-Build cost estimate based on 30 percent design (developed under Subtask 8.2).
- Design-Build schedule based on 30 percent design (developed under Subtask 8.3).
- Draft Design and Construction Phasing Plan.
- Draft Subcontracting and Self-Performance Plan.
- Constructability TM (developed under Subtask 8.4).
- Risk Register for construction (developed under Task 1).
- All QA/QC review documentation.

The 30 Percent design submittal shall be consistent with a 30 percent level of completion, including at a minimum the items identified below.

- Drawings
 - General Requirements - Cover Sheet, List of Drawings, List of Abbreviations
 - Civil/Site
 - Civil legends and abbreviations including expected drawing list
 - Survey information, including existing facilities, utilities, and property boundaries
 - Environmentally sensitive areas and any identified contaminated areas
 - Preliminary process piping layout, Preliminary drainage plan, Rough grading plan, Preliminary dewatering plans, Preliminary construction staging plan and preliminary sequencing plan, Preliminary access and traffic control plan
 - Structural, Architectural, Landscaping, Process Mechanical, Building Mechanical, Electrical, and Instrumentation and Controls (I&C)
 - Legends and abbreviations including expected drawing list

- Process Flow Diagram, Preliminary process and instrumentation diagrams (P&IDs)
 - Preliminary floorplans, elevations, drawings and details
 - Preliminary equipment sizing
- Specifications
 - Division 01
 - Proposed changes to the City of Chattanooga Division 01 Specifications shall be identified and submitted to the Owner for approval
 - Civil/Site, Structural, Architectural, Landscaping, Process Mechanical, Building Mechanical, Electrical, and Instrumentation and Controls (I&C)
 - Detailed specification outlines
 - Preliminary control descriptions

As part of the 30 percent design submittal, the Design-Builder shall develop and submit a draft Subcontracting and Self-Performance Plan, including:

- Introduction, background and purpose.
- Planned work packages and estimated value.
- Self-performed work, work by Design-Builder partner firms, and competitively subcontracted work.
- Process for competitive proposals for bidding
- Procurement plan for subcontractors, vendors, and material suppliers, including goal for SBE/WBE/MBE utilization and related outreach.
- Plan for complying with applicable Owner procurement requirements.
- Handling of long lead items and coordination with the Project schedule.

The Design-Builder shall submit the draft Subcontracting and Self-Performance Plan to the Owner for review and comment. The Design-Builder shall prepare a revised Plan, addressing Owner comments, for inclusion in its 60 Percent design submittal.

Subtask 7.2 Deliverables:

- 30 Percent Design Submittal
- 30 Percent Design Review Comment Resolution Log

Subtask 7.3. 60 Percent Design Submittal

Design-Builder shall develop and submit a draft 60 percent design submittal to the Owner for review and comment. The 60 percent design submittal shall include all documents, drawings and specifications required under this task or identified as being submitted along with the 60 percent design under other tasks. At a minimum, the 60 percent design shall include:

- Revisions to the BODR including revisions to design criteria and rationale for changes.
- Updated plans and specifications
- Plans for bypassing of any affected facilities.
- Draft Phase 2 Health and Safety Plan

- Draft Phase 2 Quality Management Plan
- Summary of status of permits
- Updated Design-Build cost estimates based on 60 percent design (from Subtask 7.2)
- Updated Design-Build schedule based on 60 percent design (from Subtask 7.3)
- Updated Design and Construction Phasing Plan
- Updated Subcontracting and Self-Performance Plan
- Updated construction Risk Register (From Task 1)
- Updated constructability TM (from Subtask 7.4)
- All QA/QC Review documentation
- Draft Project Testing Plan, including prerequisites, procedures, roles and responsibilities, monitoring and measurement protocols, and preliminary performance criteria for all required equipment and systems testing, and final Performance Standards for Acceptance Testing as defined in the Owner's Project Criteria and Owner Specifications.

As part of the 60 percent design submittal, the Design-Builder shall submit a revised Subcontracting and Self-Performance Plan, including information detailed under Subtask 7.2, to the Owner for review and comment. The Design-Builder shall prepare a final Plan, addressing Owner comments, for inclusion in its GMP Proposal.

The 60 percent drawings and specifications shall be consistent with a 60 percent design milestone, and include at a minimum the items identified below:

- Drawings
 - General Requirements - Cover Sheet, List of Drawings, List of Abbreviations
 - Civil/Site
 - Civil legends and abbreviations including drawing list.
 - Survey information, including existing facilities, utilities, and property boundaries.
 - Environmentally sensitive areas and any identified contaminated areas
 - Process piping layout, drainage plan, grading plan, dewatering plans, construction staging plan and sequencing plan, access and traffic control plan.
 - Structural, Architectural, Landscaping, Process Mechanical, Building Mechanical, Electrical, and Instrumentation and Controls (I&C)
 - Legends and abbreviations including drawing list.
 - Process Flow Diagram, Preliminary process and instrumentation diagrams (P&IDs)
 - Floorplans, elevations, drawings, and details
 - Equipment sizing
- Specifications
 - Division 01
 - Proposed changes to the City of Chattanooga Division 01 Specifications shall be identified and submitted to the Owner for approval.

- Civil/Site, Structural, Architectural, Landscaping, Process Mechanical, Building Mechanical, Electrical, and Instrumentation and Controls (I&C)
 - Detailed specification outlines
 - Control descriptions

Subtask 7.3 Deliverables:

- Draft 60 percent design submittal
- 60 Percent Design Review Comment Resolution Log
- Revised 60 percent design submittal (to be included with GMP Proposal)

TASK 8: COST ESTIMATING, SCHEDULING, AND CONSTRUCTABILITY REVIEWS

The Design-Builder shall conduct cost model development, cost estimating, scheduling, and constructability reviews to support Phase 1 design activities, as described in the following subtasks.

Subtask 8.1. Cost Model Development

The Design-Builder shall develop a draft cost model for the Project for review and approval by the Owner. The intent of cost model development and review is to have the Owner and the Design-Builder agree on the format for presenting costs that will be used consistently throughout the Project, so that the Owner can easily track the evolution of costs from alternatives analysis through the GMP Proposal.

The cost model shall be consistent with an “Open Book” approach such that all costing details are transparent and openly shared with the Owner. Costs shall be broken down to show labor, equipment and materials for each item. Phase 2 designer costs shall also be shown. All contingency, and escalation factors and pass-through costs shall be clearly identified in the cost model. In addition, the cost model shall show the application of fees identified in the Design-Build Agreement (e.g. Design-Builder’s Fee and General Conditions) and taxes in a manner that allows the Owner to confirm the fee amounts and cost basis to which they are applied. The draft cost model shall be submitted to the Owner for review prior to the alternatives analysis.

A revised cost model shall be submitted to the Owner within two weeks that incorporates and addresses Owner comments. The Design-Builder shall submit additional revisions as needed to reach agreement with the Owner on the format of the cost model.

Subtask 8.1 Deliverables:

- Draft, revised draft and final cost model in hard-copy, Adobe PDF and spreadsheet (or other native form) formats

Subtask 8.2. Cost Estimating

The Design-Builder shall use the Owner-approved cost model from Subtask 8.1 for developing estimates and its GMP Proposal; however, with Owner approval the cost model may be further refined as greater detail becomes available on the project.

The Design-Builder shall develop and submit Project cost estimates as needed to support decisions regarding design alternatives, the BODR, the 30 percent design submittal, and the 60 percent design submittal. Estimates shall be provided in hard-copy, Adobe PDF and spreadsheet (or other native form) formats at key decision points, and with the BODR / 30 percent design, and the 60 percent design submittals. Focused cost estimates shall be prepared as needed in support of design-to-budget alternatives analyses. Cost estimating effort to support the alternatives analysis in Subtask 6.1 is included in Subtask 6.1; all other cost estimating effort for Phase 1 is included in this Subtask.

Design-Builder and the Owner shall meet after each major cost submittal to review and confer about the submissions, with Design-Builder identifying the evolution of the costs. The Owner will subsequently

provide review comments on cost submittals. The Design-Builder shall revise the cost estimates as needed in response to the Owner's comments and continue to meet as needed to resolve remaining issues and comments.

Subtask 8.2 Deliverables:

- Limited cost estimates to support design decisions.
- Cost estimates with BODR, 30 percent, and 60 percent design submittals.
- Proposed Cost of Work and GMP for inclusion in the GMP Proposal.
- Revised cost estimates as needed to address Owner questions and comments.

Subtask 8.3. Scheduling

The Design-Builder shall develop and update estimated schedules for the Work (Phases 1 and 2). Estimated Design-Build schedules shall be developed and / or updated to support the BODR, with the 30 percent design, and with the 60 percent design. In addition, updates to the estimated Design-Build schedule shall be developed whenever a Project change occurs that would significantly affect the nature of Design-Build activities, duration of activities, network logic, or the scheduled Substantial Completion Date. Scheduling effort to support the alternatives analysis in Subtask 6.1 is included in Subtask 6.1; all other scheduling effort for Phase 1 is included in this Subtask.

As part of its GMP Proposal, the Design-Builder shall develop and submit a proposed Design-Build baseline schedule that shows contractual dates for key milestones including Substantial Completion and Final Completion.

All Design-Build schedules, developed as part of Phase 1 Services, shall be consistent with the following requirements.

- All schedules shall be prepared using Primavera P6-compatible scheduling software (latest version).
- Schedules shall be submitted as electronic files (native and Adobe PDF format) and hardcopy and shall be updated monthly to show progress and changes.
- Schedules shall include all activities needed to complete the design and construction.
- The baseline schedule and subsequent schedule updates shall generally conform to Owner Division 01 specifications, consistent with requirements of the Design-Build Agreement.

Subtask 8.3 Deliverables:

- Estimated and updated Design-Build schedules with the BODR, 30 percent design submittal, and the 60 percent design submittal.
- Updated Design-Build schedules as needed to reflect significant Project changes.
- Proposed Design-Build baseline schedule included with GMP Proposal.

Subtask 8.4. Constructability Reviews

The Design-Builder shall provide constructability reviews of the design as it progresses and at the 30 percent and 60 percent design submittal milestones. As part of each design submittal review meeting, the Design-Builder shall conduct a constructability discussion with the Owner, discuss the constructability issues that led to Design-Builder's recommendations, and conduct follow-up activities as needed to resolve any issues.

Subtask 8.4 Deliverables:

- Constructability TM for 30 and 60 percent design submittals.

TASK 9: GUARANTEED MAXIMUM PRICE PROPOSAL

The Design-Builder shall conduct all work necessary to develop, revise, and negotiate its proposed Guaranteed Maximum Price (GMP) Proposal in accordance with the requirements of the Contract. The Design-Builder shall utilize an “open book” approach to develop the GMP Proposal, providing the Owner with full access to all the details that make up the final GMP Proposal. These efforts are designed to prepare the documents and estimates as accurately as possible and to keep the Owner fully informed and involved with the design and cost throughout the development of the GMP Proposal.

The GMP Proposal shall meet the requirements set forth in the Contract. All Phase 1 work (Tasks 1-8) shall be completed to the Owner’s satisfaction as a precondition to Design-Builder submitting the GMP Proposal.

In advance of the GMP Proposal, pursuant to Article 11.6 of the DBIA 545, the Owner may request a Performance Warranty to be included in the GMP Proposal. The Design-Builder shall coordinate with the Owner during Phase 1 to ensure the Owner’s request is received with sufficient notice to be included in the GMP Proposal.

The GMP Proposal shall include:

- Revised 60 Percent Design documents addressing Owner comments and any other drawings or specifications necessary to define the Basis of Design.
- Identification of all permits and approvals that the Design-Builder obtained during Phase 1, and identification of all permits and approvals to be obtained by the Design-Builder during Phase 2.
- Preliminary Training Plan.
- Revised Subcontracting and Self-Performance Plan.
- Revised Project Testing Plan, including prerequisites, procedures, roles and responsibilities, monitoring and measurement protocols, final performance criteria for all required equipment and systems testing, and final Performance Standards for Acceptance Testing.
- Proposed Phase 2 Health and Safety Plan.
- Proposed Phase 2 QMP.
- Updated/Revised Design and Construction Phasing Plan.
- A construction sequence work plan.
- Proposed baseline Design-Build schedule including an accompanying narrative describing key assumptions in the proposed baseline Design-Builder’s schedule upon which the GMP is based including dates for Substantial Completion and Final Completion.
- Descriptive information on all engineering, procurement, materials, construction labor and equipment, and other services necessary to perform the Work as required under this Contract.
- The proposed Cost of the Work using the Owner-approved cost model. Supporting documentation for the proposed Cost of the Work at a minimum shall include:
 - Subcontractor and materials vendor bids and quotations.
 - Details supporting estimates for self-performed construction work (labor, materials, equipment, production rates).
 - Expense rates such as mileage charges, per diem for meals and lodging, and personnel vehicle rentals.
 - Unburdened rental rates on construction equipment, trailers, storage and staging space and major tools.

- Allowances (where appropriate).
- Testing.
- The proposed GMP and breakdown consisting of the proposed Cost of the Work (inclusive of any Contingency), the General Conditions amount, and the Design-Builder's Fee.
- All other proposed GMP pricing assumptions and clarifications on terms and conditions used not covered in the preceding items in this section.
- A list of work activities, expenses and fees not included in the GMP which the Owner may be expected to pay for.

After delivery of the draft GMP Proposal, the Design-Builder will meet with the Owner to present, review, and answer questions about the content of the GMP Proposal. The Design-Builder will continue to revise the GMP Proposal as needed and conduct additional workshops and meetings as needed to obtain Owner agreement for the Contract Price Amendment.

Task 9 Deliverables:

- Guaranteed Maximum Price Proposal and revisions.

Exhibit B
General Conditions

Exhibit C
WIFIA Information

Exhibit D

Insurance Requirements

Exhibit D

Insurance Requirements

1. **Indemnification and Hold Harmless**

The Parties to this Agreement shall adhere to the indemnification, hold-harmless, and related provisions in the General Conditions of Contract, including but not limited to Section 7.3 therein. Any indemnification of Owner required by the Contract Documents shall be deemed to include each member of Owner's Board of Directors and Owner's employees.

2. **Insurance Required of Design-Builder**

Design-Builder shall procure and maintain, and shall ensure that all Subcontractors, Sub-Subcontractors, and Design Consultants of any tier purchase and maintain, the types of insurance coverage as set forth below. Coverage shall be in accordance with, and conform to, the requirements listed below:

A. Workers' Compensation and Employer's Liability Insurance

For both Phase 1 and Phase 2 Services, Workers' Compensation (including occupational disease) in accordance with the laws of the state where the Project is located, including the Other States Endorsement and up to the required statutory limits. If Design-Builder's Work will involve, in whole or in part, work or operations on the navigable waters of the United States or a flagged vessel, then Design-Builder shall obtain coverage pursuant to the Jones Act and the Longshoremen's and Harbor

Worker's Compensation Act, as applicable.

Employer's Liability limits shall be at least:

- i. \$1,000,000 Bodily Injury each Accident
- ii. \$1,000,000 Bodily Injury by Disease – Policy Limit
- iii. \$1,000,000 Bodily Injury by Disease – Each Employee

Disability Benefits Insurance in statutory limits.

B. Automobile Liability Insurance

For both Phase 1 and Phase 2 Services, Coverage shall be provided on the current ISO CA 00 01 form and shall apply on an "any auto" basis, including coverage for all vehicles being used in connection with the Design-Builder's Work or the Project (including, without limitation, (i) owned autos; (ii) leased autos; (iii) hired autos; and (iv) non-owned autos). Coverage shall include, without limitation, loading and unloading, uninsured and underinsured motorist coverage, and medical payment protection.

Coverage shall provide limits of at least: \$1,000,000 combined single limit.

If the Design-Builder's Work involves hauling or transporting hazardous material, the policy shall include the most current version of the ISO CA 99 48 – Broadened Pollution Liability Endorsement, or its equivalent, and the MCS-90 shall also be attached to the policy.

C. Commercial General Liability Insurance

For both Phase 1 and Phase 2 Services, Commercial general liability insurance shall be provided on the current ISO CG 00 01 occurrence form, and shall at least include, without limitation, coverage for damages because of bodily injury, property damage, personal and advertising injury, and for the products completed operations hazard, with limits of at least:

- i. \$1,000,000 Each Occurrence

- ii. \$2,000,000 Products/Completed Operations Aggregate
- iii. \$2,000,000 General Aggregate
- iv. \$ 5,000 Medical Payments

The limits shall apply on a per-project basis. Coverage shall be maintained from the Notice to Proceed with Phase 1 Services until not less than ten (10) years after substantial completion and acceptance of the Project, or to the expiration of any applicable statute of repose in the jurisdiction where the Project is located, whichever is shorter.

In addition to the foregoing, the terms and conditions for the CGL coverage (both primary and umbrella/excess policies) shall:

- i. Include no limiting modification to the ISO CG 00 01 definition of “Insured Contract”;
- ii. Include no limitation or exclusion for punitive damages;
- iii. Include ongoing operations and products-completed operations coverage for the Additional Insureds (defined below);
- iv. Include Independent Contractor’s Liability;
- v. Contain no exclusions relating to explosion, collapse and underground hazards;
- vi. Contain no limitation or exclusion for resulting or consequential property damage;
- vii. Contain no limitation or exclusion for the Additional Insureds’ vicarious liability, strict liability, or statutory liability including, but not limited to, liability pursuant to any labor or employment related law;
- viii. Contain no limitation or exclusion based on the existence or applicability of the Additional Insureds’ wrap-up insurance program;
- ix. Contain no exclusion relating to (1) gravity related injuries, or (2) injuries sustained by an employee of an insured or any insured;
- x. Contain no exclusion applicable to Design-Builder’s scope of Work; and
- xi. Provide that the limits apply specifically to this Project and are not shared with any other location, project, or exposure of Design-Builder.

D. Excess Liability

This insurance shall be in the form of an umbrella or excess liability policy providing follow form coverage excess to, and at least as broad as, the Commercial General Liability, Employer’s Liability, and Automobile Liability insurance coverages detailed above, with limits as follows:

- As of Owner’s Notice to Proceed with Phase 1 Services, as described in Section 6.1 of the Agreement: at least \$5,000,000
- As of Owner’s Notice to Proceed with Phase 2 Services, as described in Section 6.1 of the Agreement: at least \$25,000,000

Coverage shall “drop down” for defense and indemnity in the event of exhaustion or insolvency of the underlying insurance. As of Owner’s Notice to Proceed with Phase 2 Services, the policy shall provide that the limits apply solely to the Project. Coverage shall be maintained from the Owner’s Notice to Proceed with Phase 1 Services until not less than ten (10) years after substantial completion and acceptance of the Project, or to the expiration of any applicable statute of repose in the jurisdiction where the Project is located, whichever is shorter.

E. Pollution Liability (including mold coverage)

Coverage shall include, without limitation, coverage for: (a) Liability for bodily injury, property damage, remediation, and clean-up costs arising from pollution events or conditions on, at, under, or migrating from the Project site and from transportation and disposal of pollutants and/or anything contaminated by pollution; (b) Defense costs arising from claims due to pollution conditions or events; (c) Fines or penalties assessed by a government entity and costs of responding to a government entity investigation; and (d) Emergency Response Costs coverage.

This insurance must also include coverage for property damage and bodily injury arising out of each of the following if excluded from coverage by Design-Builder's commercial general liability insurance: mold; viruses; silica; asbestos; lead; arsenic; chromate; sulfates; vapor, smoke, soot, dust, and fumes.

As of the date of Owner's Notice to Proceed with Phase 1 Services, as described in Section 6.1 of the Agreement, coverage shall include limits of at least: \$5,000,000 per claim and \$5,000,000 in the aggregate. As of the date of Owner's Notice to Proceed with Phase 2 Services, as described in Section 6.1 of the Agreement, coverage shall include limits of at least: \$25,000,000 per claim and \$25,000,000 in the aggregate.

Coverage must remain in force for both on-site and off-site exposures and remain in place for a period of not less than ten (10) years after substantial completion and acceptance of the Project by Owner, or to the applicable Statute of Repose in the jurisdiction where the Project is located, whichever is shorter.

F. Professional Liability

This policy shall include, without limitation, coverage for the entirety of Design-Builder's and its Subcontractors', Sub-Subcontractors', and Design Consultants' professional services performed for the Project (i.e., coverage shall include, but not be limited to, direct services provided by Design-Builder and those services provided on by any of its Subcontractors, Sub-Subcontractors, or Design Consultants of any tier). The policy shall also provide rectification coverage. The policy shall not include exclusions arising out of: (1) contractual liability or liability assumed under contract and shall expressly insure, to the fullest extent permitted by applicable law, the indemnity obligations set forth in this Exhibit; and (2) faulty workmanship that is the result of a negligent act, error, or omission in the performance of professional services. The policy shall provide limits of not less than \$10,000,000 per claim and \$10,000,000 in the aggregate. This insurance shall, at a minimum, have a retroactive date which is the same as or predates Owner's Notice to Proceed with Phase 1 Services. This insurance must be maintained for at least ten (10) years after Final Completion of the Project by Owner, or to the applicable Statute of Repose in the jurisdiction where the Project is located, whichever is shorter.

G. Efficacy/Failure to Perform Insurance

Owner requests the rights to request Efficacy/Failure to Perform Insurance with the Phase 2 NTP. If the Design-Builder cannot obtain the Phase 2 Efficacy/Failure to Perform Insurance, the Owner has the right to procure Efficacy/Failure to Perform Insurance coverage itself. This policy's coverage will begin upon Owner's Notice to Proceed with Phase 2 Services, as described in Section 6.1 of the Agreement. It shall provide coverage for Design-Builder's legal liability to Owner for Design-Builder's Work, including all systems, equipment, goods, and products, that fail to meet the required performance standards or specifications pursuant to the Agreement, including, but not limited to levels of performance, quality, fitness, or durability. Coverage shall include, but not be limited to, liability for those amounts Owner must expend to bring the Work to the required level of performance, quality, fitness, or durability, and all resulting and/or consequential loss incurred by Owner. The policy shall provide limits of not less than \$5,000,000 per claim, or \$5,000,000 in the aggregate. This insurance must be maintained for at least ten (10) years after substantial completion and acceptance of the Project by Owner, or to the applicable Statute of Repose in the jurisdiction where the Project is located, whichever is shorter.

H. Property Insurance

Owner may, in its discretion, procure and maintain throughout the performance of the Work, Builder's Risk "All Risk" property insurance, insuring against physical loss or damage to the Work.

In the Proposal (as defined in section 2.3 of the Agreement), Design-Builder will provide an option for Owner to accept, in its sole discretion, insurance described in this Section 2.G to be procured by Design-Builder. Such option will include the cost of such insurance. Such insurance will comply with the following additional requirements:

Property Insurance proposed by Design-Builder in the Proposal will be in an amount equal to 100% of the insurable value of the Work and shall include Owner as an additional insured, as its interests may appear. Coverage shall be on a replacement cost basis. The policy shall provide for any recoveries thereunder to be made payable to the Design-Builder as trustee for the insureds, as its interests may appear, and subject to any applicable mortgage clause. Such Property Insurance will include a waiver of subrogation for all claims for property damage to the extent such insurance applies and to the extent proceeds are paid for such loss, except such rights as they have to the proceeds of such insurance held by the Design-Builder as fiduciary.

Any insurance provided by Subcontractors or Sub-Subcontractors for Work in transit and portions of the Work stored off the Site shall be primary over property insurance that may be carried by the Owner.

However, Design-Builder's and any of its Subcontractors', Sub-Subcontractors', or Design Consultants' tools and equipment shall not be covered and shall be at the sole risk of the respective owner of the tools and equipment. Design-Builder agrees to waive all claims as against Owner for damage to Design-Builder's tools and equipment to the extent covered by such Property Insurance or other insurance.

3. General Insurance Conditions

A. Additional Insureds

All insurance required by this Exhibit (excluding only Workers' Compensation and Professional Liability insurance) shall name the following parties as additional insureds for all liability arising out of the Work: City of Chattanooga, Tennessee; Jacobs Engineering Group, Inc.; Industrial Development Board of the City of Chattanooga; Hamilton County, Tennessee; Hamilton County Water and Wastewater Treatment Authority; and each of their respective parents, subsidiaries, members, affiliates, lenders, directors, officers, representatives, agents, and employees, all parties required to be indemnified by this Exhibit (as set forth in Paragraph 1 as Indemnitees), and all other parties as reasonably requested by Owner (hereinafter, collectively the "Additional Insureds").

All policies (including primary, excess, and umbrella) shall state that the insurance provided to the Additional Insureds is primary to, and non-contributory with, any other insurance maintained by, or available to, the Additional Insureds.

With respect to the Commercial General Liability insurance policy required under this Exhibit, additional insured status must be provided on ISO form CG 20 10 11 85, or CG 20 10 10 01 and CG 20 37 10 01 (or their equivalent to be approved by Owner).

B. Scope of Coverage and Limits of Insurance

The coverage provided to the Additional Insureds must be at least as broad as that provided to the first named insured on each policy. In the event that any policy provided in compliance with this

Exhibit states that the coverage provided to an additional insured shall be no broader than that required by contract, or words of similar meaning, the parties agree that nothing in this Exhibit is intended to restrict or limit the breadth of such coverage.

The limits of insurance provided by Design-Builder shall not be less than the minimum limits specified in this Exhibit.

C. Number of Policies

The limits of insurance required in Section 2 of this Exhibit may be satisfied with a combination of primary, excess, or umbrella policies of insurance, provided that all such policies comply with all provisions of this Exhibit, including, without limitation, the scope of coverage and the naming of the Additional Insureds (as defined in Section 3(A)) on a primary and noncontributory basis.

D. Severability of Interests (Cross Liability)

No cross-liability exclusions are permitted that apply to the Additional Insureds, and there may not be any restrictions in any policy that limits coverage for a claim brought by an additional insured against a named insured.

E. Waiver of Subrogation

To the fullest extent permitted by law, all insurance furnished by Design-Builder in compliance with this Exhibit shall include a waiver of subrogation in favor of the Additional Insureds.

F. Insurer Requirements and Owner Approval

All insurance described in this Exhibit shall be written by an insurance company or companies reasonably satisfactory to Owner and licensed or authorized to do business in the state in which the Project is located and shall be in a form and content reasonably satisfactory to the Owner. Each insurer shall have an A.M. Best rating of A-:IX or better. Owner, in its sole discretion, shall have the right to reject any insurance company selected by Design-Builder. No party subject to the provisions of this Exhibit shall violate or knowingly permit to be violated any of the provisions of the policies of insurance described herein.

G. Subcontractors, Sub-Subcontractors, and Design Consultants

Before performing or providing any Work or entering the Site, each Subcontractor, Sub-Subcontractor, and Design Consultant shall obtain the insurance, with the same requirements and coverage amounts, required of Design-Builder in Sections 2(A) (limited to Workers' Compensation Insurance), 2(B), and 2(C). However, the duration of such insurance coverage will extend during the time such Subcontractor, Sub-Subcontractor, and Design Consultant is performing or providing any Work in connection with the Project or is on the Project Site.

In the Proposal, Design-Builder shall offer, as an option in Owner's sole discretion, the following insurance, which shall be in addition to the insurance required in the preceding paragraph. The option will include the cost of such insurance. If Owner accepts such option, the Contract Price Amendment will require such insurance, and such insurance shall comply with the following:

Should Design-Builder subcontract a portion of the Work to a Subcontractors, Sub-Subcontractors, or Design Consultants (or any other entity or person) the same conditions and requirements applicable to the Design-Builder under this Exhibit shall apply to each Subcontractors, Sub-Subcontractors, and Design Consultants. They shall provide evidence of such insurance coverage in compliance with this Exhibit when requested, but in no event later than the Owner's Notice to Proceed with Phase 2 Services, as described in Section 6.1 of the Agreement. In the event a Subcontractor, Sub-Subcontractor, or Design Consultant subcontracts any portion of its Work to another person or entity, then it shall ensure that such person or entity procure the insurance required by this Exhibit and comply with the terms and conditions set forth in this Exhibit. Any modification to

these requirements for Subcontractors, Sub-Subcontractors, or Design Consultants of any tier must be approved in writing by Owner.

H. Deductibles on Policies

The policies Design-Builder furnishes in compliance with this Exhibit shall not be subject to any deductible in excess of \$ 1,000,000 unless approved in writing by Owner. No policies shall have a self-insured retention unless approved in writing by Owner. Design-Builder shall be responsible for any deductible due under any insurance it provides. The coverage afforded to the Additional Insureds shall not be conditioned upon the payment of any deductible.

I. Certificates of Insurance

Prior to Owner's Notice to Proceed with Phase 1 Services or, if applicable, Owner's Notice to Proceed with Phase 2 Services, certificates of insurance reasonably acceptable to Owner shall be filed with Owner and after execution of any contracts or subcontracts with Subcontractors, Sub-Subcontractors, and Design Consultants. All required insurance shall be maintained without interruption from the date of Owner's Notice to Proceed with Phase 1 Services or, if applicable, Owner's Notice to Proceed with Phase 2 Services until Final Completion of the Work, and for such other periods of time as specified in this Exhibit. Certificates of insurance shall be provided by and updated with Owner throughout such periods. Owner reserves the right to receive and inspect the insurance policies and is entitled to certified copies of all policies required by this Exhibit upon its request.

Failure to provide the COIs will not relieve Design-Builder of its responsibility to carry and maintain such insurance. Owner is not obligated to review the COI and/or other documentation to ascertain compliance with this Exhibit. Owner's failure to inspect such COIs and/or other documentation, and/or failure to identify, object to, or otherwise notify Design-Builder of any discrepancy therein, is not a waiver of any requirement contained in the Contract or this Exhibit, and will not waive Owner's right to require strict compliance with the terms of the Contract or this Exhibit.

By requiring Design-Builder and its Subcontractors, Sub-Subcontractors, and Design Consultants to procure, and provide evidence of, the insurance required hereunder, Owner assumes no obligation to ensure such insurance is procured or is adequate for losses that may be sustained by anyone. There are no third-party beneficiaries to any obligation of Owner.

J. Notice of Cancellation

All policies required under this Exhibit shall contain endorsements or provisions within the policy that confirm that said insurance policies shall not be cancelled, not renewed, or materially changed except upon thirty (30) days prior written notice to Owner. If information concerning cancellation, non-renewal, or material change is not furnished by the insurer, Design-Builder shall, with reasonable promptness, provide Owner with such information.

K. Owner's Right to Procure Insurance

In the event of a failure of Design-Builder to furnish and maintain any of the insurance required under this Exhibit or to furnish satisfactory evidence thereof, Owner shall have the right, but not the obligation, to procure such insurance on Design-Builder's behalf, and Design-Builder shall furnish all necessary information in connection with Owner's procurement and either pay the costs thereof to Owner immediately upon presentation of a bill therefor, or have the cost thereof deducted from any payment otherwise due to Design-Builder under the Agreement at Owner's option.

L. Other Insurance by Design-Builder

Any type of insurance or any increase of limits of liability not described in this Exhibit, which Design-Builder requires for its own protection or on account of any statute, law, regulation, or otherwise shall be its own responsibility and at its own expense.

M. No Limitation

The insurance coverages maintained by Design-Builder shall not limit any of Design-Builder's indemnity obligations or other liabilities under this Agreement. Owner, by requiring the Design-Builder to purchase insurance, shall not be deemed to waive the Owner's right to bring any action, to the fullest extent permitted by law, for any loss which may be covered, completely or in part, by that insurance. Nor shall the fact that insurance is obtained for a certain risk be deemed to release, relieve, or diminish the liability of the Design-Builder to indemnify the Owner pursuant to the provisions of this Exhibit or otherwise. The damages recoverable by the Owner in any action shall not be limited by the amount of coverage specified in the insurance policy or policies.

N. No Waiver of Insurance Requirements

It is expressly agreed between Owner and Design-Builder that any failure on the part of the Owner to require, or verify, complete and timely performance of Design-Builder's obligations under the insurance requirements set forth in this Exhibit shall not constitute a waiver of any right of Owner to require compliance by Design-Builder with the insurance requirements, and/or to seek damages resulting from the Design-Builder's failure to comply.

O. Modifications to This Exhibit

Any waiver or modification of the insurance requirements stated in this Exhibit must be agreed to in writing by Owner.

P. Aggregate Limits

Unless otherwise provided herein, aggregate limits in any policy shall be exclusive to the Project and not shared with any other project.

Q. Duration of Insurance

Unless indicated otherwise herein, all insurance described in this Exhibit must be in place as of the date of Owner's Notice to Proceed with Phase 1 Services, as described in Section 6.1 of the Agreement, and shall be maintained until Final Completion, as defined in the Contract Documents.

IN THE EVENT THAT THE LAW OF THE STATE IN WHICH THE PROJECT IS LOCATED (OR APPLICABLE LAW) LIMITS THE APPLICABILITY OF ANY OF THE INSURANCE COVERAGE THAT OWNER MAY REQUIRE FROM DESIGN-BUILDER, THEN DESIGN-BUILDER SHALL BE REQUIRED TO OBTAIN COVERAGE TO THE FULLEST EXTENT OF COVERAGE AND LIMITS ALLOWED BY APPLICABLE LAW AND THIS AGREEMENT SHALL BE READ TO CONFORM TO SUCH LAW.

4. Compliance with Federal, State and Local Law

The Design-Builder agrees to be bound by, and at its own cost, comply with all federal, state, and local laws, ordinances, and regulations (hereafter collectively referred to as "laws") applicable to the Design-Builder's Work including, but not limited to, the Federal Occupational Safety and Health Act ("OSHA"). To the fullest extent permitted by law, the Design-Builder shall be liable to the Owner for all loss, cost and expense attributable to any acts of commission or omission by the Design-Builder, its employees and agents resulting from the failure to comply therewith, including, but not limited to, any fines, penalties or corrective measures.

Exhibit E
Form of Contract Price Amendment

Exhibit F

Form of Contract Price Amendment

Owner:	
Design-Builder:	
Project:	
Agreement:	
Effective Date:	

Pursuant to Section 2.3.2.3 of the Agreement, dated _____, 20____, the Owner and the Design-Builder amend the Agreement to (i) establish a Guaranteed Maximum Price, as set forth in Section 7.6 of the Agreement, (ii) set or amend any Contract Times for the Work, as set forth in Article 6 of the Agreement, and (iii) amend any other terms and conditions of the Agreement, all as provided herein. Capitalized Terms not otherwise defined in this Contract Price Amendment shall have the meaning set forth in the Contract Documents.

1. Guaranteed Maximum Price:

1.1. The Guaranteed Maximum Price referenced in Section 7.6 of the Agreement is \$_____.

1.2. The Basis of Design Documents, as defined in Section 1.2.2 of the General Conditions of Contract, are as follows:

Exhibit	Basis of Design Document (including Owner-Approved 60% Design)

1.3. Additional Exhibits: Any additional exhibits incorporated by this Contract Price Amendment are as follows:

Exhibit	Exhibit Description
	[Amended or Supplemental Scope of Work Exhibit]
	[Schedule of Values of GMP]
	[Pre-Approved Subcontractors]
	[Additional Performance Standards and Guaranty]
	[Anticipated Weather Delays]

	[Design-Builder's GMP Proposal]
--	---------------------------------

1.4. Allowances: Any allowances agreed upon by the parties, as provided in Section 7.7 of the Agreement, are as follows:

Allowance Items	Allowance Values

1.5. Unit Prices: Any unit prices agreed upon by the parties are as follows:

Unit Price Work	Unit Price

1.6. Contingency: Any contingency prices agreed upon by the parties are as follows:

Contingency Items	Contingency Values

2. Other Adjustments to Contract Price (if any): If the parties have agreed on any change to the Design-Builder's Fee or Design-Builder's General Conditions Percent, or have agreed on any other change to the Contract Price, such agreement is as follows:

Design-Builder's Fee Percent, as defined in Section 7.4.1, is amended to be:	%
Design-Builder's General Conditions Percent, as defined in Section 7.4.1, is amended to be:	%
Other Changes:	

3. Contract Times:

3.1. Pursuant to Article 6 of the Agreement, the Design-Builder shall achieve Substantial Completion of the Work on or before _____ [date certain or days after Notice to Proceed with Phase 2 Services], which is the Scheduled Substantial Completion Date, as defined in Section 6.2 of the Agreement.

3.2. Pursuant to Section 6.2.2 of the Agreement, the Design-Builder shall achieve the following activities by the associated Milestone Dates:

Activities	Milestone Dates

--	--

3.3. Liquidated Damages. As provided in Section 6.4 of the Agreement, Liquidated Damages are established or modified as follows:

Deadline	Liquidated Damages Daily Rate
Failure to achieve Substantial Completion	
Failure to achieve Final Completion	

4. If the parties have agreed to amend any other terms or conditions of the Contract Documents, such agreement is as follows:

5. Unless otherwise explicitly provided herein, all terms and conditions of the Contract Documents remain in full force and effect. Unless otherwise explicitly incorporated and referenced herein, neither the Design-Builder's Proposal (as defined in Section 2.3 of the Agreement) nor any portion thereof, nor any document attached thereto or referenced therein, is incorporated herein. The terms and provisions of this Contract Price Amendment constitute the full and complete agreement between the parties concerning the subject matter hereof.

In executing this Contract Price Amendment, Owner and Design-Builder each individually represents that it has the necessary approvals to execute this Contract Price Amendment. Design-Builder executes this Contract Price Amendment under seal.

OWNER:
City of Chattanooga

DESIGN-BUILDER:

(Signature)

(Signature)

(Seal)

(Printed Name)

(Printed Name)

(Title)

(Title)

 Date:

 Date:

 Attest

 Attest

The following Surety or Sureties execute solely for the purpose of consenting to the modifications made by this Contract Price Amendment.

Surety:

(Name)

(Signature)

(Printed Name)

(Title)

Date:

Attest

Exhibit F
Key Design & Supervisory Personnel

Exhibit F

Key Design & Supervisory Personnel

Key design and supervisory personnel assigned by Design-Builder and its engineering subcontractor, as applicable, to this Project are:

Name	Role/Function

Exhibit G
Form of Performance and Payment Bonds

Exhibit H
Form of Waiver of Liens and Bond Claims

Exhibit H
Form of Waiver of Liens and Bond Claims

**WAIVER AND RELEASE OF LIEN AND PAYMENT BOND RIGHTS
UPON INTERIM PAYMENT**

The undersigned mechanic and/or materialman has been employed by the City of Chattanooga to furnish: __

[describe materials and/or labor] for the construction of improvements known as, which is located in the City of Chattanooga and is owned by the City of Chattanooga and more particularly described as follows:

Upon the receipt of the sum of \$_____, the mechanic and/or materialman waives and releases any and all liens or claims of liens it has upon the foregoing described property or any rights against any labor and/or material bond through the date of _____ [date] and excepting those rights and liens that the mechanic and/or materialman might have in any retained amounts, on account of labor or materials, or both, furnished by the undersigned to or on account of said contractor for said building or premises.

COUNTERPARTS AND ELECTRONIC SIGNATURES: This Waiver may be executed in one or more counterparts, each of which will be deemed to be an original, but all of which together will constitute one and the same instrument. An executed signature page delivered via facsimile transmission or electronic signature shall be deemed as effective as an original executed signature page.

GIVEN UNDER HAND AND SEAL THIS _____ DAY OF _____, 20__.

(SEAL)
(Signature of Mechanic/Materialman)

(Printed/Typed Name and Title)

(Company Name)

(Witness) _____ (Address)

NOTICE: WHEN YOU EXECUTE AND SUBMIT THIS DOCUMENT, YOU SHALL BE CONCLUSIVELY DEEMED TO HAVE WAIVED AND RELEASED ANY AND ALL LIENS AND CLAIMS OF LIENS UPON THE FOREGOING DESCRIBED PROPERTY AND ANY RIGHTS REGARDING ANY LABOR OR MATERIAL BOND REGARDING THE SAID PROPERTY TO THE EXTENT (AND ONLY TO THE EXTENT) SET FORTH ABOVE, EVEN IF YOU HAVE NOT ACTUALLY RECEIVED SUCH PAYMENT, 90 DAYS AFTER THE DATE STATED ABOVE UNLESS YOU FILE AN AFFIDAVIT OF NONPAYMENT PRIOR TO THE EXPIRATION OF SUCH 90 DAY PERIOD.

**WAIVER AND RELEASE OF LIEN AND PAYMENT BOND RIGHTS
UPON FINAL PAYMENT**

The undersigned mechanic and/or materialman has been employed by the City of Chattanooga to furnish: __

_____ [describe materials and/or labor] for the construction of improvements known as which is located in the City of Chattanooga and is owned by the City of Chattanooga and more particularly described as follows:

Upon the receipt of the sum of \$ _____, the mechanic and/or materialman waives and releases any and all liens or claims of liens it has upon the foregoing described property or any rights against any labor and/or material bond through the date of _____ [date] and excepting those rights and liens that the mechanic and/or materialman might have in any retained amounts, on account of labor or materials, or both, furnished by the undersigned to or on account of said contractor for said building or premises.

COUNTERPARTS AND ELECTRONIC SIGNATURES: This Waiver may be executed in one or more counterparts, each of which will be deemed to be an original, but all of which together will constitute one and the same instrument. An executed signature page delivered via facsimile transmission or electronic signature shall be deemed as effective as an original executed signature page.

GIVEN UNDER HAND AND SEAL THIS _____ DAY OF _____, 20__.

_____ (SEAL)
(Signature of Mechanic/Materialman)

(Printed/Typed Name and Title)

(Company Name)

_____ (Witness) _____ (Address)

NOTICE: WHEN YOU EXECUTE AND SUBMIT THIS DOCUMENT, YOU SHALL BE CONCLUSIVELY DEEMED TO HAVE WAIVED AND RELEASED ANY AND ALL LIENS AND CLAIMS OF LIENS UPON THE FOREGOING DESCRIBED PROPERTY AND ANY RIGHTS REGARDING ANY LABOR OR MATERIAL BOND REGARDING THE SAID PROPERTY TO THE EXTENT (AND ONLY TO THE EXTENT) SET FORTH ABOVE, EVEN IF YOU HAVE NOT ACTUALLY RECEIVED SUCH PAYMENT, 90 DAYS AFTER THE DATE STATED ABOVE UNLESS YOU FILE AN AFFIDAVIT OF NONPAYMENT PRIOR TO THE EXPIRATION OF SUCH 90 DAY PERIOD.

Exhibit I
Form of Consent of Surety to Final Payment

Exhibit I

Form of Consent of Surety to Final Payment

To Owner:	City of Chattanooga	Performance Bond No.:	
		Payment Bond No.:	
Design Builder:			
Project:		Contract Date:	
	(name and address)		

In accordance with the provisions of the Agreement between the Owner and the Design-Builder as indicated above,

_____,
 [insert name and address of Surety]

Surety, on bond of

_____,
 [insert name and address of Design-Builder]

hereby approves of final payment to the Design-Builder and agrees that final payment to the Design-Builder shall not relieve the Surety of any of its obligations to the City of Chattanooga as set forth in said Surety's bond.

IN WITNESS WHEREOF, the Surety has hereunto set its hand and seal on this date: _____

SURETY

 (Signature of authorized representative)

 (Printed name and title)

Attest: _____

Note: Original Current Power of Attorney with Current Certificate shall be attached hereto

Exhibit J
Forms for Affirmation of Compliance

Affidavit of No Collusion By Design-Builder

STATE OF _____

COUNTY OF _____

The undersigned, _____, having been duly sworn, deposes and states as follows:

1. I am the _____ of _____
(sole owner, a partner, president, secretary, etc.) (Name of Corporation/Partnership/Limited Partnership/Joint Venture)

which is a _____ in good standing,
(Corporation) (Proprietorship) (Partnership) (Limited Partnership) (Joint Venture)

formed under the laws of _____, hereinafter referred to as "Bidder."
(State of incorporation or formation)

2. I am authorized to make this affidavit on behalf of said Bidder, and I have personal knowledge of the matters set forth herein.

3. On _____, 201__, said bidder is submitting a bid to the City of Chattanooga for the above captioned contract. This bid was prepared under my personal supervision and direction. During the preparation of the bid, I have taken affirmative steps to inquire about the circumstances of the bid preparation in general and about any contacts between or among this bidder and any other bidders or prospective bidders in particular.

4. I am aware of the Federal and State laws including without limitation, the Sherman Act (15 U.S.C. 1) and the Tennessee antitrust laws (T.C.A. 47-25-101, et seq.), which make it illegal to agree to fix or rig bids or otherwise agree to restrain competition in bidding for contracts with the City of Chattanooga. I am aware in particular that violations of the Sherman Act are federal crimes punishable by a fine of up to \$1.0 million for a corporation, and a fine of up to \$100,000 for an individual or by imprisonment not exceeding three years, or both.

5. I hereby certify and attest that the bid identified in paragraph 3 is based solely upon the independent knowledge, expertise and business judgment of the bidder acting through its officers and agents and is not the product of, nor was it prepared in connection with, any contract, combination, conspiracy, understanding or collusion between or among any other bidder or prospective bidder on said contract.

Signature

Subscribed and sworn to me this ___ day of _____, 20__.

NOTARY PUBLIC: _____

(name signed)

(name printed or typed)

Commission Expires: _____

(Date)

(SEAL)

U.S. Environmental Protection Agency

**CERTIFICATION REGARDING
DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY
MATTERS**

The prospective participant certifies to the best of its knowledge and belief that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

Typed Name & Title of Authorized Representative

Signature of Authorized Representative Date

I am unable to certify to the above statements. My explanation is attached.

Affirmative Action Plan
For
City of Chattanooga W-20-001-201

(Name of Contractor)

The above named Contractor is an equal opportunity employer and during the performance of this contract, the Contractor agrees to abide by the Affirmative Action Plan of the City of Chattanooga as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, or handicap. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, national origin, or handicap. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay, or other forms of compensation, and selection of training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin, or handicap.
3. The Contractor will send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice advising the said labor union or works' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The DBE goal for this project has been set at 0%.
5. This Plan or any attachments thereto shall further provide a list of all employees annotated by job function, race, and sex who are expected to be utilized on this project.
6. During the term of this contract the following non-discriminatory hiring practices shall be employed to provide employment opportunities for minorities and women:
 - a. All help wanted ads placed in newspapers or other publications shall contain the phrase "Equal Employment Opportunity Employer".
 - b. Maintain systematic contracts with minority groups and human relations organizations.
 - c. Encourage present employees to refer qualified minority group and female applicants for employment opportunities.
 - d. Use only recruitment sources which state in writing that they practice equal opportunity. Advise all recruitment sources that qualified minority group members and women will be sought for consideration for all positions when vacancies occur.

7. During the term of this contract, the Contractor, upon request of the City of Chattanooga Office of Economic and Community Development, will make available for inspection by the City of Chattanooga Office of Economic and Community Development, copies of payroll records, personnel records, documents and other records that may be used to verify Contractor compliance with these equal opportunity provisions.
8. The Contractor agrees to notify the City of Chattanooga Office of Economic and Community Development of any failure or refusal on the part of the contractor or any subcontractors to comply with the equal opportunity provisions set forth. Any failure or refusal to comply with the aforementioned provisions by the Contractor and/or Subcontractors shall be a breach of this contract.

(Signature of Contractor)

(Title and Name of Construction Company)

(Date)

Iran Divestment Act Compliance Certification

In accordance with Tennessee Code Annotated (TCA) § 12-12-101 *et. seq.*, by submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to TCA § 12-12-106.

SIGNATURE: _____

NAME PRINTED: _____

COMPANY: _____

DATE: _____

Drug Free Workplace Affidavit of Design-Builder

STATE OF _____

COUNTY OF _____

Comes the affiant after having first been duly sworn and testifies as follows:

1. My name is _____ I hold the principal office of
_____ for _____.
(Name of Principal Office) (Name of Bidding Entity)

2. _____ has submitted a bid to the City of
Chattanooga for the construction of

3. _____ employs more than five (5) employees.
(Name of Bidding Entity)

4. In accordance with Tenn. Code Ann. §50-9-113, this is to certify that
_____ has in effect at the time of its submission of
(Name of Bidding Entity)
a bid to perform the construction of the City of Chattanooga project identified above, a drug-
free workplace program that complies with Title 50, Chapter 9 of the Tennessee Code.

5. This affidavit is made on personal knowledge.

Signature

Subscribed and sworn to me this ___ day of _____, 20___.

NOTARY PUBLIC:

(name signed)

(name printed or typed)

Commission Expires:

(Date)

(SEAL)

Attestation Regarding Personnel Used in Contract Performance

Project Name

The Bidder/Contractor, identified below, does hereby attest, certify, warrant, and assure that the Contractor shall not knowingly utilize the services of an illegal immigrant in the performance of this Contract and shall not knowingly utilize the services of any subcontractor who will utilize the services of an illegal immigrant in the performance of this Contract.

BIDDER/CONTRACTOR:

By:

(name signed)

(name printed or typed)

Title:

Date:

NOTICE: This attestation MUST be signed by an individual empowered to contractually bind the Contractor. If said individual is not the chief executive or president, this document shall attach evidence showing the individual's authority to contractually bind the Contractor.

END OF SECTION

Certification By Design-Builder Regarding Equal Employment Opportunity

Following is the standard language which must be incorporated into all solicitations for offers and bids on all construction contracts or subcontracts in excess of \$10,000 to be performed in designated geographical areas:

"Minority" includes:

- a. Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
- b. Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
- c. Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
- d. American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

The City of Chattanooga is an equal opportunity employer and during the performance of this contract, the Contractor agrees to abide by the equal opportunity goals of the City of Chattanooga as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
3. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. In all construction contracts or subcontracts in excess of \$10,000 to be performed for the City of Chattanooga, any Contractor and/or subcontractor is further required to file in duplicate within ten (10) days of being notified that it is the lowest responsible bidder, an affirmative action plan with the EEO Director of the City of Chattanooga. This plan shall

state the Contractor's goals for minority and women utilization as a percentage of the work force on this Project.

5. This Plan or any attachments thereto shall further provide a list of employees annotated by job function, race and sex who are expected to be utilized on this Project. This plan or attachment thereto shall further describe the methods by which the Contractor or subcontractor will utilize to make good faith efforts at providing employment opportunities for minorities and women.
6. The Contractor will include the portion of the sentence immediately preceding Paragraph 1 and the provisions of Paragraphs 1 through 6 in every subcontract so that such provisions will be requested of each subcontractor. The Contractor agrees to notify the City of Chattanooga of any subcontractor who refuses or fails to comply with these equal opportunity provisions. Any failure or refusal to comply with these provisions by the Contractor and/or subcontractor shall be a breach of this contract.

Name of Prime Contractor

Project Number

INSTRUCTIONS

This certification is required pursuant to Executive Order 11246, Part II, Section 203 (b), 30 F.R. 12319-25). Any bidder or prospective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicated that the prime or subcontractor has not filed a compliance report due under applicable instruction, such contractor shall be required to submit a compliance report.

CONTRACTOR'S CERTIFICATION

Contractor's Name: _____

Address: _____

1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause. Yes No

2. Compliance Reports were required to be filed in connection with such contract or subcontract. Yes No

If yes, state what reports were filed and with what agency.

3. Bidder has filed all compliance reports due under applicable instructions, including SF-100. Yes No

4. If answer to Item 3 is NO, please explain in detail on reverse side of this certification.

Certification - The information above is true and complete to the best of my knowledge and belief. (A willfully false statement is punishable by law-U.S. Code, Title 18, Section 1001.)

Name and title of signer (Please type)

Signature

Date

Acknowledgement of Addenda

The Owner will transmit addenda to those Proposers who have registered with the Owner per the provisions of the Request for Proposal and will post all addenda on the Owner Project website at the following address:

<http://www.chattanooga.gov/newpurchasing/supplier-central/bids-and-solicitation-opportunities/currently-open-bids>.

It is Proposer's responsibility to obtain all addenda prior to submitting its Proposal.

The undersigned Design-Builder hereby acknowledges receipt of the following Addenda: **[insert the number and date of each Addendum; if none, insert "None"]**

Addendum No.	Addendum Date

Respectfully submitted,

[typed name of Design-Builder]

By: _____
[signature]

[typed name and title]

[address of Design-Builder]

(_____)
[business telephone number]

[date of execution]

Exhibit K
Parent Guarantee

EXHIBIT K

Guaranty Agreement: Guarantee of Completion and Performance

This Guaranty of Completion and Performance ("Guaranty") is given this ___ day of _____, _____ by _____ ("Guarantor") to and for the benefit of the _____ ("City") against _____ "Design-Builder").

RECITALS

WHEREAS, Guarantor is Design-Builder's parent company;

WHEREAS, Design-Builder and City intend to enter into a Progressive Design-Build Agreement for _____ ("Agreement") to _____ ("Work");

WHEREAS, pursuant to the Agreement and as a material inducement for Design-Builder and City to enter into the Agreement, and for other good and valuable consideration, the receipt and sufficiency of which are acknowledged, Guarantor has agreed to execute and deliver this Guaranty.

NOW THEREFORE, in consideration of the Recitals and the mutual covenants and agreements contained in this Guaranty, the parties agree as follows:

1. Defined Terms. Capitalized terms used in this Guaranty, but not defined, shall have the same meanings as those terms in the Agreement.
2. Scope of Guaranty. Subject to the conditions of this Guaranty, Guarantor absolutely guarantees to City:
 - a. The timely completion of the Work in substantial accordance with the Performance Standards, at a cost not to exceed the Guaranteed Maximum Price, subject to Force Majeure Events and except as otherwise provided for in the Agreement;
 - b. The due and punctual performance, payment and observance by Design-Builder of all its respective material obligations and liabilities under the terms, covenants and conditions of the Agreement, whether according to the present terms of the Agreement, or according to any changes in the terms, covenants or conditions of the Agreement now or ever made or granted (which changes, if any, shall be made only pursuant to, and in accordance with, the terms of the Agreement); and
 - c. All extensions, modifications, rearrangements and restatements of any of the obligations, liabilities and duties described in (a) and (b).
 - d. As used in this Guaranty, the term "Guaranteed Obligations" shall mean, collectively, the indebtedness, obligations, duties and agreements described in (a), (b), and (c) preceding.
3. Enforcement of Guaranty. In the event of default (including expiration of any applicable cure periods provided for in the Agreement) by Design-Builder in the payment or performance of any of the Guaranteed Obligations when due, Guarantor, within five (5) calendar days from the date the City notifies Guarantor of Design-Builder's failure to

satisfy any of the Guaranteed Obligations, shall pay or perform any such Guaranteed Obligations then due, at its sole cost and expense, including commencing the completion of construction of the Work and diligently pursuing such construction to complete the Work within the time and manner required in the Agreement.

4. Continuing and Absolute Guaranty. It is expressly understood and agreed that this is an irrevocable, absolute and continuing Guaranty of payment, performance and completion of the Guaranteed Obligations, subject to the limitations set forth, and that the obligations of Guarantor under this Guaranty are and shall be absolute, except as otherwise provided for in this Guaranty under all circumstances, without regard to the validity, regularity or enforceability of any or all of the Agreement or any other instruments executed in connection with any or all of the Agreement, and neither this Guaranty nor Guarantor's liabilities and obligations under this Guaranty shall terminate until the Guaranteed Obligations have been fully satisfied. Guarantor acknowledges having received and reviewed a true copy of the Agreement.
5. Waiver. To the fullest extent permissible under applicable law, subject to the express provisions of this Guaranty, Guarantor waives notice of the acceptance, presentment, demand for payment, protest, notice of protest, or any and all notices of nonpayment, non-performance, non-observance, or other proof or notice of demand except any notice to the Design-Builder required pursuant to the Agreement or applicable law as a condition to the performance of any Guaranteed Obligation.
6. Defenses, Set-Offs and Counterclaims. Notwithstanding any provision contained herein to the contrary, the Guarantor shall be entitled to exercise or assert any and all legal or equitable defenses which the Design Builder may have under the Agreement or under applicable law (other than bankruptcy or insolvency of the Design-Builder and other than any defense which the Design Builder has expressly waived in the Service Contract or the Guarantor has expressly waived in this Guaranty), and the obligations of the Guarantor hereunder are subject to the affirmative defenses of such counterclaims, set-offs or deductions which the Design Builder is permitted to assert pursuant to the Agreement, if any. Under no circumstances will the liabilities and obligations of the Guarantor under the Guaranty exceed the liabilities assumed by the Design-Builder under the terms of the Agreement. This section shall survive the termination or expiration of the Agreement.
7. No Termination, Modification or Impairment. Guarantor also agrees that the validity of this Guaranty, and the obligations of Guarantor under this Guaranty, shall in no way be modified, terminated, affected or impaired unless otherwise agreed to in writing by both parties.
8. Modification of Other Documentation. Guarantor also covenants and agrees that this Guaranty shall remain and continue in full force and effect without regard to any modification, amendment or termination of the Agreement, and that all such modifications, amendments or terminations may be made, done or suffered without notice to, or consent of, Guarantor in its capacity as the Guarantor under this Guaranty.
9. Enforcement Rights. Guarantor acknowledges and agrees that this Guaranty may be enforced by the City or the Design-Builder.
10. Consideration. Guarantor represents and warrants that the value of the consideration received, and to be received, by Guarantor is reasonably worth at least as much as the liabilities and obligations of Guarantor under this Guaranty, and such liabilities and obligations may reasonably be expected to benefit Guarantor either directly or indirectly.

11. Litigation Costs. If any party brings an action to enforce this Guaranty, the losing party will reimburse the prevailing party for all expenses incurred by the prevailing party, including, but not limited to, reasonable attorneys' fees.
12. Successors and Assigns. This Guaranty shall be binding upon Guarantor, its administrators, successors and assigns. If more than one person or entity comprises Guarantor, the obligations of all of such persons or entities under this Guaranty shall be joint and several.
13. Default. Guarantor shall be in default under this Guaranty upon the occurrence of any or all of the following events, circumstances or conditions:
 - a. Default in the timely payment or performance of any or all of the obligations imposed under the Agreement, or any or all of the covenants, warranties and liabilities in this Guaranty which:
 - i. as to defaults that can be cured by the payment of money, remains uncured five (5) days after written notice from the City to Guarantor; or
 - ii. as to defaults that cannot be cured by the payment of money, Guarantor has (a) not begun to cure within five (5) days after written notice from the City to Guarantor, and/or (b) failed to diligently pursue the cure to completion (but in any event within the time requirements under the Agreement); or
 - b. Any warranty, representation or statement made or furnished to the City by or on behalf of Guarantor in connection with this Guaranty to induce the City to execute the Agreement, or otherwise deal with Design-Builder, that proves to have been false in any material respect when made or furnished; or
 - c. Dissolution, termination of existence, insolvency, business failure, appointment of a receiver to any part of the property of, assignments for the benefit of creditors by, or the commencement of any proceeding under any state or federal bankruptcy or insolvency laws by or against Guarantor, and, as to an involuntary proceeding under any federal or state bankruptcy law, if such proceeding shall not be dismissed within sixty (60) days after commencement of it; or
 - d. Making any seizure, vesting or intervention by, or under authority of any governmental authority by which the management of Guarantor is displaced of its authority in the conduct of Guarantor's business(es) or Guarantor's business(es) is curtailed; or
 - e. Upon the entry of any monetary judgment or the assessment or filing of any tax lien against Guarantor, or upon the issuance of any writ of garnishment or attachment against any property of, debts due to, or rights of Guarantor, unless in any such event such judgment, assessment, lien, garnishment or attachment is discharged within sixty (60) days.
14. Remedies. Guarantor acknowledges that upon the occurrence of any of the above circumstances or conditions of default, the City shall have the right to pursue any and all rights and remedies available to the City against Guarantor, whether such rights and remedies are available at law or in equity.
15. Governing Law; Amendment. This Guaranty shall be governed, construed and interpreted as to validity and enforcement and in all other respects under the laws of the State of Ohio, and cannot be modified, amended or terminated orally.
16. Waiver of Right to Trial by Jury. GUARANTOR WAIVES ALL RIGHTS TO TRIAL BY JURY IN ANY ACTION OR PROCEEDING INSTITUTED BY OR AGAINST THE CITY, WHICH ACTION PERTAINS DIRECTLY OR INDIRECTLY TO THIS

GUARANTY, AS IT MAY BE AMENDED FROM TIME TO TIME; ANY ALLEGED TORTIOUS CONDUCT BY GUARANTOR OR THE CITY; OR IN ANY WAY, DIRECTLY OR INDIRECTLY, ARISING OUT OF, OR RELATED TO, THE RELATIONSHIP BETWEEN GUARANTOR AND THE CITY.

17. Subordination. If at any time Guarantor is in default (beyond applicable grace or cure periods) of its obligations under this Guaranty and Guarantor has a right to receive any payment from Design-Builder, whether by subrogation to the rights of Design-Builder under the Agreement or otherwise, Guarantor's rights to such payments shall be subordinate and inferior as to the time and manner of payment to the payment or performance of the Guaranteed Obligations. The foregoing shall not be considered to limit Guarantor's rights to prompt payment from time to time of amounts due to Guarantor by Design-Builder (whether related to the Work or otherwise) so long as no uncured default (giving effect to all applicable grace or cure periods) exists.
18. Time. Time is of the essence of this Guaranty and all of its provisions.

IN WITNESS WHEREOF, Guarantor has duly executed this Guaranty as of this ____ day of _____, _____.

(Signature of Contractor)

(Title and Name of Construction Company)

(Date)

RESOLUTION

A RESOLUTION AUTHORIZING THE INDUSTRIAL DEVELOPMENT BOARD TO ENTER INTO SALES CONTRACTS WITH THE ELECTRIC POWER BOARD OF CHATTANOOGA, FOR ELECTRICAL SERVICES FOR THE WEST CHICKAMAUGA AND SOUTH LEE HIGHWAY PROJECT SITES, FOR THE E2I2 PROJECT, AT A COST NOT TO EXCEED FOUR HUNDRED FIFTY THOUSAND DOLLARS (\$450,000.00).

BE IT RESOLVED, that the Industrial Development Board of the City of Chattanooga is hereby authorizing to enter into sales contracts with the Electric Power Board of Chattanooga, for electrical services for the West Chickamauga and South Lee Highway project sites, for the e2i2 project, at a cost not to exceed \$450,000.00.

ADOPTED: November 4, 2024

THE INDUSTRIAL DEVELOPMENT
BOARD OF THE CITY OF CHATTANOOGA

Attest:

KERRY HAYES, Chair

GORDON PARKER, Secretary

RESOLUTION

A RESOLUTION AUTHORIZING THE INDUSTRIAL DEVELOPMENT BOARD CHAIR OR HIS DESIGNEE TO APPROVE EXPENDITURES OF FIFTY THOUSAND DOLLARS (\$50,000.00) OR LESS FOR THE E2I2 DESIGN BUILD PROJECT FOR EXPENSES INCURRED OUTSIDE THE APPROVED DESIGN-BUILD CONTRACT.

BE IT RESOLVED, that the Industrial Development Board of the City of Chattanooga is hereby authorizing the Chair or his designee to approve expenditures of \$50,000.00 or less for the e2i2 Design Build Project for expenses incurred outside the approved design-build contract.

ADOPTED: November 4, 2024

THE INDUSTRIAL DEVELOPMENT
BOARD OF THE CITY OF CHATTANOOGA

Attest:

KERRY HAYES, Chair

GORDON PARKER, Secretary



City of Chattanooga Wastewater Department Consent Decree Program Program Management

Project: W-20-001-201 e2i2 SSO Abatement Program (Progressive Design Build)

Date: October 24, 2024

To: City of Chattanooga Industrial Development Board

From: Jacobs Engineering

Subject: Quarterly Project Update

Purpose

The purpose of this update is to inform the Industrial Development Board (IDB) of project progress including:

- project background,
- work-to-date,
- invoices & payments,
- project schedule,
- risk & change management and,
- upcoming board action requests.

Project Background

City of Chattanooga Project Owner: Wastewater Department, Mark Heinzer

City of Chattanooga Project Manager: Dennis Malone

Industrial Development Board Representative: Bill Payne

Owner's Advisor: Jacobs Engineering

Design Build Team:

- Contractor/Lead: Brasfield & Gorrie
- Design Team:
 - Gresham Smith & Partners,
 - Barge Design Solutions,
 - Croy Engineering and,
 - Terracon

Documents executed & presented to IDB, to date:

- Design Build RFP – Nov 2022
- Memorandum of Understanding – April 2023
- Design Build Agreement – April 2023
- Property Lease – July 2023

Jacobs

- E2i2 Quarterly Report/Presentation – February 2024
- Right of Way Approval for HomeServe Property – July 2024
- E2i2 Quarterly Report – August 2024
- Resolution authorizing \$450,000 for purchase of easements – August 2024
- Resolution authorizing Change Order 1 for Brasfield & Gorrie for \$238,624.00 – August 2024
- Resolution authorizing Change Order 2 for Brasfield & Gorrie for \$147,719,244.00 for the 60% GMP (Construction cost) – August 26, 2024
- Resolution authorizing the IDB to execute an Extension Deposit Agreement with Tennessee-American Water Company for watermain install on St. Stephens Place – Oct 2024
- Resolution authorizing the IDB to execute a License Agreement with the TDOT for a 40' gate opening along I-75 for construction access – Oct 2024
- Resolution authorizing the IDB to execute retainage documents for the Brasfield & Gorrie design build contract – Oct 2024

Work-to-Date

Following are the project highlights from February 2024 thru September 2024. Note that the August IDB update was a presentation with construction cost & schedule updates only, so the detail from February through August is included here.

1. February 2024
 - a. Submitted the 30% Design Plans and Specifications Deliverable to City & Jacobs
 - b. Received LDO approval of the Buffer Variance Request Letters for all four project sites.
 - c. Submitted Land Disturbance Permit Application package to LDO for North and South Lee Hwy Conveyance Improvements.
 - d. Finalized and submitted the TDEC ARAP 401 permit application package
 - e. Held monthly progress meeting
2. March 2024
 - a. Submitted North and South Lee Hwy NOI and SWPPP documents to agencies
 - b. Completed and submitted the 30% design cost estimate deliverable to the City and Jacobs
 - c. DB Team conducted 30% Cost Estimate and Design Review Workshop w/ City and Jacobs.
 - d. DB Team conducted the Early Procurement Group 1 Review & Selection Workshop w/ City and Jacobs.
 - e. Held monthly progress meeting
3. April 2024
 - a. Conducted SLEQ and WCEQ Station Civil Design Review & LDP Application Package Review Workshop w/ City and Jacobs 04/24 and 04/26/2024.
 - b. Conduct Civil Drawing & LDP Pre-application Package review with LDO (04/04) for the SLEQ and WCEQ Stations.
 - c. Conducted TDOT Pre-application coordination meeting with City, Croy and B&G (04/05).
 - d. Submitted North Lee Hwy and Utility Encroachment documents to TDOT (04/24)
 - e. Held monthly progress meeting
4. May 2024
 - a. Completed e2i2 Project Outreach Event 05/02/2024. The City, Jacobs, B&G, Gresham Smith, Barge and Croy attended this meeting.

- b. Conducted TDOT Utility Encroachment meeting 05/09/2024. The City, Jacobs, B&G, Gresham Smith, and Croy attended this meeting.
 - c. Conducted Project Cost and Schedule Workshop with Early Procurement Group 2 RFP results and budget updates (05/08/2024).
 - d. Received the approved North Lee Hwy Utility Encroachment Agreement from TDOT.
 - e. Revised and Submitted to LDO – Land Disturbance Permit application for SLEQ & WCEQ Stations.
 - f. Submitted TDOT Utility Encroachment Permit application for SLEQ Station.
 - g. Held monthly progress meeting
5. June 2024
- a. Submitted Design & Construction Phasing Plan, the Subcontracting & Self-Performance Plan, and the Constructability Technical Memorandum for the 60% design deliverable.
 - b. Conducted 60 % Design and Budget Review Workshop 06/26/2024. The City, WWTA, Jacobs, B&G, Gresham Smith, Barge and Croy attended this meeting.
 - c. Held monthly progress meeting
 - d. Submitted and received traffic control lane closure permit approval from TDOT on Lee Hwy crossing for utilities from SELQ PS to SLEQ Tank Site.
 - e. Received SWPPP Notice of Coverage for S. Lee Hwy and N. Lee Hwy Conveyance.
 - f. Submitted modeling and Application for FEMA No Rise Certification for LDO.
 - g. Received form FAA 7406-1 permit approval for both SLEQ & WCEQ sites.
 - h. Finalized 60% design plans and specifications development and submitted to Owner & Jacobs 06/06.
 - i. Submitted 60% Pre-GMP Cost Estimate/Budget 06/13.
 - j. Conducted Project 60% Design, Pre-GMP Cost Estimate/Budget & Schedule Deliverable Workshop 06/26.
6. July 2024
- a. Conducted Pre-GMP Preparation and Coordination Workshop 07/18/2024. The City, Jacobs, B&G and Gresham Smith attended this meeting.
 - b. Conducted e2i2 GMP Presentation and Coordination Workshop 07/24/2024. The City, Jacobs, B&G and Gresham Smith attended this meeting.
 - c. Received TDEC ARAP 401 Permit letters for SLEQ, WCEQ, NL Conveyance and SL Conveyance
 - d. Received USACE NWP 48 DA 404 Permits for SLEQ, WCEQ, NL Conveyance and SL Conveyance
 - e. Updated and submitted GMP Deliverable documents to the Owner and Jacobs July 24, 2024.
 - f. Conducted Project 60% Design, Pre-GMP Cost Estimate/Budget & Schedule Deliverable Workshop 07/24.
7. August 2024
- a. Conducted Easement Appraisal and Coordination Meetings on 08/02, 08/16 and 08/30/2024. The City, Jacobs, ORC and B&G attended these meetings (ongoing).
 - b. Conducted WCEQ Levee Work (LDO) & Deed (TDOT) Coordination Meeting 08/23/2024. The City, Jacobs, and B&G attended this meeting. .
 - c. Conducted the August Monthly Progress Meeting 08/29/2024.
 - d. Conducted WCEQ I-75 Construction Access TDOT Application Review Workshop 08/30/2024. The City, Jacobs, B&G, Croy and Gresham Smith attended this meeting.
 - e. Received LDO approval for South Lee Hwy Conveyance Improvements 08/23/2024.
 - f. Finalized GMP Deliverable and supporting documents for the August 26, 2024 IDB Meeting.
 - g. GMP approved through August 26th IDB Meeting

- h. Design Build Phase 2 Notice to Proceed issued 8/30/24.
8. September 2024
- a. Continued easement and permitting efforts.
 - b. 90% design start up.
 - c. Design build focused on hydraulic modeling efforts to finalize design elements for the 90% deliverable.
 - d. IJA Meeting with City, WWTA & Jacobs
 - e. McCutcheon Rd Pond meeting with Stormwater, Water Resources, Wastewater, & Jacobs.
 - f. WCEQ I-75 Construction Access TDOT Work on ROW Permit Package Review Meeting with B&G, Croy, City & Jacobs.
 - g. e2i2 Hydraulic Model Review & Coordination with City, B&G, & Jacobs including Alyssa Ramsey & Xavier Pedeux
 - h. LDO Pre-Submittal meeting for WCEQ, SLEQ LDP's with B&G, Jacobs & LDO
9. October 2024
- a. Held several hydraulic modeling updates meeting with City, Jacobs and PDB Team
 - b. Focus on several easement acquisitions and public outreach efforts for the South Lee areas.
 - c. Meeting held with LDO leadership to discuss e2i2 and design build processes.
 - d. Design cluster meetings started back up this month.
 - e. Focus on TDOT approvals for the greenway lowering mobilization planned for mid-November.
 - f. Full construction mobilization is planned for January 2025.

Invoices & Payments

See Invoices 004, 005 and 006 attached.

Table 1 - Invoices to Date & Project Fee Overview, Thru Invoice 012 (August period)

Task	Description	Current Fee	Billed to Date *Includes Inv's 001 thru 012	% Spent	Remaining
1	Phase 1 Project Management	\$ 845,817.00	\$ 845,817.00	100%	\$ 0
2	Phase 1 Meetings	\$ 785,379.00	\$ 785,379.00	100%	\$ 0
3	Surveying, Mapping, and Utility Locates	\$ 302,285.00	\$ 284,645.00	94%	\$ 17640
4	Geotechnical, Hydrogeological, and Environ. Eval.	\$ 286,630.00	\$ 272,909.00	95%	\$ 13721
5	Permitting and Approvals	\$ 255,500.00	\$ 255,500.00	100%	\$ 0
6	Alternatives Analysis and Project Definition	\$ 207,861.00	\$ 207,861.00	100%	\$ 0
7	Design through 60 Percent	\$ 1,806,987.00	\$ 1,806,987.00	100%	\$ 0
8	Cost Estimating, Scheduling, and Constr. Reviews	\$ 782,000.00	\$ 782,000.00	100%	\$ 0
9	Guaranteed Maximum Price Proposal	\$ 96,165.00	\$ 96,165.00	100%	\$ 0
	TOTAL:	\$ 5,368,624.00	\$ 5,337,263.00		\$ 31,361.00



Payments:

- Invoice 004 totaling \$447,393.00 – paid.
- Invoice 005 totaling \$468,201.00 – paid.
- Invoice 006 totaling \$654,295.00 – paid
- Invoice 007 totaling \$530,739.00 – paid.
- Invoice 008 totaling \$420,119.00 – paid.
- Invoice 009 totaling \$346,828.00 – paid
- Invoice 010 totaling \$409,946.00 – paid.
- Invoice 011 totaling \$333,489.00 – paid.
- Invoice 012 totaling \$453,351.00 – paid

Table 2 – Design Build Phase 2 GMP price breakdown (0% spent to date)

Cost of Work	60 % GMP
1.00 - South Lee Highway Equalization Station	\$ 37,255,178
2.00 - West Chickamauga Equalization Station	\$ 64,491,661
3.00 - North Lee Highway Conveyance Improvements	\$ 4,550,399
4.00 - South Lee Highway Conveyance Improvements	\$ 2,420,073
5.00 - Phase 2 Design Services and Services During Construction	\$ 7,038,256
6.00 - Phase 2 Insurance & Bonds	\$ 3,336,978
7.00 - Owner Contingency	\$ 4,521,887
Subtotal - Phase 2 Cost of Work	\$ 123,614,432
8.00 - DB General Conditions Fee (10% applied to cost of work)	\$ 12,361,443
9.00 - DB Fee (9.5% applied to cost of work)	\$ 11,743,371
Phase 2 Total	\$ 147,719,246



Design Builder’s Project Schedule

- See project schedule attached, August 26, 2024 update provide with GMP deliverable.
- The next milestone is delivery of the 90% Deliverable Documents which are due 01/15/25
- Mobilization of lowering the greenway and sewer force main installation is schedule for mid-November, pending TDOT license agreement approval.
- Full construction mobilization is planned for January 6, 2025.

Table 2 – Project Milestones

Milestone	Duration (days)	Due Date
Phase 1 (60% Design + GMP)	365	7/24/2024
Phase 2 NTP Issued	1	8/30/2024
Final Design Completion	270	05/27/2025
Phase 2 Construction Mobilization	1	01/06/2025
South Lee Hwy Substantial Completion	660	10/28/2026
South Lee Hwy Final Completion	60	12/27/2026
Phase 2 (Full Project) Substantial Completion	870	05/26/2027
Phase 2 (Full Project) Final Completion	60	07/25/2027

Change Management

See attached change management log.

Risk Register

The design build team is tracking risks and updating them monthly. High level items include TDOT access approval for the West Chick site and impacts to the South Chickamauga Greenway under the I-75 overpass, among others. See project risk register attached.

Upcoming Board Action Requests

None at this time.

Attachments

1. Schedule Update
2. Change Management Log
3. Risk Register

Responsibility	Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2024												2025												2026												2027											
							M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N					
Pull Plan Meeting Weekly Activities																																																						
Week of 3/11/24																																																						
OWNER	T76962	Hydraulic Model Verification - SLEQ Tank Draining Setpoints	1	18-Mar-24 A	19-Jul-24	2																																																
OWNER	T76964	Hydraulic Model Dry Weather Flows/Depth - WC Diversion	1	18-Mar-24 A	19-Jul-24	2																																																
Civil Design (Croy)																																																						
EQ Stations																																																						
CROY	T78235	S. Lee & W. Chick Station Tree Surveys	20	08-Jul-24	02-Aug-24	70	24																																															
Task 8 - Cost Estimating, Scheduling, & Constructability Reviews																																																						
B&G	T81120	Cost Estimating	251	26-Jul-23 A	24-Jul-24	0																																																
B&G	T81130	Scheduling	251	26-Jul-23 A	24-Jul-24	0																																																
BG/GS	T81180	Develop Preliminary Training Plan	10	08-Jul-24	19-Jul-24	2	24																																															
Task 9 - GMP Proposal																																																						
BG/GS	T91110	Incorporate Owner Comments and Submit 60% Design, GMP Proposal & Updated Supporting Documents	17	27-Jun-24 A	19-Jul-24	2	A																																															
OWNER	T91120	GMP Delivery Presentation & Review Workshop	1	24-Jul-24	24-Jul-24	0	1-24																																															
Phase 2 (Final Design & Construction Phase)																																																						
90% Design																																																						
GS	PH21110	Develop 90% Drawings & Specifications	40	12-Sep-24	06-Nov-24	43	2-Sep-24																																															
BG/GS	PH21120	Conduct & Document DB, QC, VE, Constructability Review of 90% Design	10	07-Nov-24	20-Nov-24	43		07-Nov-24																																														
GS	PH21125	Revise 90% Plans & Specs	10	21-Nov-24	06-Dec-24	43			21-Nov-24																																													
BG/GS	PH21130	Develop 90% Supporting Documents	20	09-Dec-24	08-Jan-25	43				09-Dec-24																																												
B&G	PH21140	B&G 90% Budget Verification	20	09-Dec-24	08-Jan-25	43				09-Dec-24																																												
OWNER	PH21150	Owner Review 90% Design Documents	15	09-Jan-25	29-Jan-25	43					09-Jan-25																																											
OWNER	PH21160	Schedule & Conduct 90% Design Review Workshop w/ Owner & Jacobs	1	30-Jan-25	30-Jan-25	43						30-Jan-25																																										
GS	PH21170	Incorporate Owner Comments, Revise 90% Design and Issue Final 100% Set	15	31-Jan-25	20-Feb-25	43							31-Jan-25																																									
Final Design																																																						
GS	PH22110	Develop Final Drawings & Specifications	40	21-Feb-25	17-Apr-25	43								21-Feb-25																																								
Procurement																																																						
B&G	PROC3105	Site Internet Setup & Build-Out	130	06-Mar-24 A	09-Sep-24	79																																																
B&G	PROC3110	Issue Remaining PO's & Subcontracts	30	12-Sep-24	23-Oct-24	96	2-Sep-24																																															
JDS	PROC3120	Conveyance Piping Procurement (Submittal, Review, Approval, Fabrication, Delivery)	185	24-Oct-24	18-Jul-25	96									24-Oct-24																																							
Construction																																																						
South Lee Highway EQ Station																																																						
Mobilization																																																						
	LEE1180	EQ STATION LDP RECEIVED AND MOBILIZATION PREP	10	05-Nov-24	18-Nov-24	29									05-Nov-24																																							
	LEE1110	Layout for Clearing, Equipment Mobilization and Erosion Control - South Lee Highway	15	06-Jan-25	29-Jan-25	0										06-Jan-25																																						
	LEE1170	MOBILIZATION SOUTH LEE HIGHWAY	0	06-Jan-25*		0										06-Jan-25*																																						
	LEE1130	Building Permit - South Lee Highway	20	13-Feb-25	12-Mar-25	106											13-Feb-25																																					
	LEE1015	Setup SLEQ Field Office	10	19-Feb-25	10-Mar-25	5											19-Feb-25																																					
South Lee EQ - West Site																																																						
West Site Work & Retaining Walls																																																						
	LEE1310	Temp Fence, Site Clearing, Site Access Road, & Pond Excavation (Clearing Only allowed 10/15 - 3/31 per CATEX)	15	06-Jan-25	29-Jan-25	0										06-Jan-25																																						
	LEE1311	Initial Construction Access Surface	5	30-Jan-25	05-Feb-25	0											30-Jan-25																																					
	LEE1312	Line Drill PS Excavation on Inside Face of 3' Bench	10	06-Feb-25	19-Feb-25	0											06-Feb-25																																					
	LEE1315	Drill & Install Soldier Beams for Shoring & Retaining Walls	20	20-Feb-25	02-Apr-25	0											20-Feb-25																																					
	LEE1320	Install Wood Lagging on Shoring & Retaining Walls Part 1	10	03-Apr-25	21-Apr-25	0												03-Apr-25																																				

Change Log

Contract No.		W-20-001-201									
Project Name:		e2i2 SSO Abatement Program Phase 1 - South Lee Hwy and West Chickamauga EQ Stations									
Engineer:		Brasfield & Gorrie, L.L.C.									
	Brief Description	Task 1 - Phase 1 Project Management	Task 2 - Phase 1 Meetings	Task 3 - Surveying, Mapping, and Utility Locates	Task 4 - Geotechnical, Hydrogeological, and Environ. Eval.	Task 5 - Permitting and Approvals	Task 6 - Alternatives Analysis and Project Definition	Task 7 - Design through 60 Percent	Task 8 - Cost Estimating, Scheduling, and Constr. Reviews	Task 9 - Guaranteed Maximum Price Proposal	TOTALS
	Executed Contract	\$ 839,036.00	\$ 785,379.00	\$ 274,702.00	\$ 257,640.00	\$ 151,312.00	\$ 207,861.00	\$ 1,729,625.00	\$ 788,280.00	\$ 96,165.00	\$ 5,130,000.00
CO #1	CORs 1-5, 7, 9, 10, 13, & 14	\$ 3,556.00	\$ -	\$ (26,289.00)	\$ 17,193.00	\$ 7,174.00	\$ -	\$ 36,628.00	\$ (6,280.00)	\$ -	\$ 31,982.00
CO #2	COR 23			\$ 35,952.00							\$ 35,952.00
CO #3	COR 5			\$ 17,920.00							\$ 17,920.00
CO #4	COR 26							\$ 25,725.00			\$ 25,725.00
CO #5	COR 18 & 27	\$ 3,225.00			\$ 11,797.00	\$ 97,014.00		\$ 15,009.00			\$ 127,045.00
	Final Contract Amount	\$ 845,817.00	\$ 785,379.00	\$ 302,285.00	\$ 286,630.00	\$ 255,500.00	\$ 207,861.00	\$ 1,806,987.00	\$ 782,000.00	\$ 96,165.00	\$ 5,368,624.00
	Net Contract Changes	\$ 6,781.00	\$ -	\$ 27,583.00	\$ 28,990.00	\$ 104,188.00	\$ -	\$ 77,362.00	\$ (6,280.00)	\$ -	\$ 238,624.00

e2i2 PHASE I RISK REGISTER

Updated: 24-Jul-24

Version: 9

Risk Likelihood: 1 = Least Likely, 5 = Most Likely Consequence: 1 = Minimal, 5 = Significant

Residual Risk Characterization: 0 to 6 = Low, 8 to 15 = Moderate, 16 to 25 = High

Category	POTENTIAL RISK DESCRIPTION	Risk Likelihood	Consequence	Residual Risk Score	Estimated Approximate Range (cost and/or time)	RISK MITIGATION STRATEGY
Design	Negative PR for the City related to impacts to homeless community; delays associated with clearing the area; risk of return of population over time/during down-time	5	5	25		Request City and Jacobs to implement previously used relocation procedure.
Design	Changes in Project design criteria after NTP	2	4	8		Project team has implemented a Change Management Plan that establishes procedures for the identification, characterization, quantification, and management of changes in scope (including design criteria), schedule, budget, and quality; do not proceed with a requested change, whether requested by a PDB team member, City or Jacobs, until change has been evaluated and approved by City.
Design	Unacceptably long durations of regulatory reviews and acceptance/approval of required studies, plans and permits	4	5	20	TBD 0 - 12 Mo	Team has identified permits that have likelihood of jeopardizing schedule and/or impacting the project (such as LDO, USACE, TDEC, FEMA, TDOT, TVA, USFWS, NEPA, utilities, etc.); coordinated early with Owner/Jacobs and permitting agencies; submitted permits early; developed a permitting matrix w/ responsibilities; developed detailed permitting timelines & identified all anticipated assessments, studies, applications, permits and coordination; verify review timeframes with agencies and account for supplemental review time; regular status checks w/agencies.
Design	Extended review duration and excessive design review comments by TDEC	3	5	15		Scheduled and conducted early coordination meeting w/ TDEC reviewers to "get on their radar;" conducted DWR pre-application meeting and reviewed project delivery method and project scope; obtained TDEC clarification on what and when to submit and TDEC provided Q&A communication protocol. Submitted TDEC ARAP pre-application meeting request and provided project scope summary and TDEC responded positively that project seems straightforward and pre-application coordination was not needed. TDEC ARAP has been submitted and in in Public Notice phase.
Design	Inefficiencies/issues related to design drawing & specs standards	3	2	6		GS prepared CADD execution plan, shared with design team, utilize ongoing identification and resolution of potential or active coordination issues; developed a list of needs to support early tasks and draft deliverables.
Design	Zoning changes and approval for each site	1	4	4		Verify with City/Jacobs if any sites require rezoning. Both EQ Station civil plans packages have been submitted to LDO for approval. No zoning issues identified to date or anticipated.
Site Investigation & Construction	Construction constraints posed by presence of T&E species/habitats (e.g., bats)	5	4	20		Regarding T&E species, CATEX regulations limit certain construction activities, (e.g., clearing) to certain months; coordinate sitework/clearing, drilling, etc. to allowable timeframes. Current Phase 2 Mid-September 2024 NTP and Phase 2 mobilization by Jan 6, 2025 is required to complete the tree cutting/clearing work at all sites before the March 31, 2025 CATEX deadline. State identified Chickamauga Crayfish as T&E. To avoid delays DB Team assumes crayfish presence for three Friar Branch crossings, submitted & State approved crayfish work plan, crayfish will be relocated shortly before S Lee Hwy Relief Sewer installation begins.
Design & Construction	Changes in key team members (PDB Team, Owner, Jacobs)	3	3	9		Identify back-up/successors to all key team positions.
Design & Construction	Unforeseen challenging subsurface conditions	5	4	20	TBD	Potential includes anything from solid rock, subsurface voids, unsuitable soils, contaminated soils, ground water. Utilizing existing available information and supplemented with additional subsurface investigations and/or testing during the design phase. Included additional borings and field investigation for structures, pipelines and trenchless crossings to support design phase.
Design & Construction	Project site access for Phase I activities and accessibility for Phase II	4	5	20	\$25,000 - \$75,000	Special permitting and access provisions are needed to modify existing access routes, install temporary & permanent access roads early to support construction activities. Depending on location, this work can be extensive. City and Jacobs are working diligently with TDOT, other City departments, and other public and private property owners to obtain approval for temporary and permanent access to all project sites.
Design & Construction	Timely acquisition of easements, property, or right-of-way access as needed to support the work, especially early work	5	5	25	TBD	N+S Lee Hwy Conveyance Improvements routing has been designed to maximize utilization of existing easements and ROW and to minimize the quantity of different parcel owners to the extent possible. City and Jacobs began private property easement approvals & acquisition in January 2024 for Conveyance Improvements. PDB Team, City, Jacobs are coordinating space needed for construction and maintenance. D-B is in the process of securing temporary agreements for the WCEQ construction parking, staging, etc. areas. City/Jacobs/DB continue to prioritize PUE and TCE easement acquisition to support Phase 2 NTP.
Design & Construction	AHJ requirements unexpectedly complex	2	3	6		Continue to schedule and conduct early coordination meeting w/ LDO, etc. reviewers to "get on their radar;" continue to conduct pre-application meeting to present current plans in development and concepts, seek feedback and address any initial questions/concerns; provide schedule of anticipated submittal dates.

e2i2 PHASE I RISK REGISTER

Updated: 24-Jul-24

Version: 9

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Category	POTENTIAL RISK DESCRIPTION	Risk Likelihood	Consequence	Residual Risk Score	Estimated Approximate Range (cost and/or time)	RISK MITIGATION STRATEGY
Design & Construction	Challenges related to replacement/connection to existing ISS sewer mains and pressurized systems	3	4	12		City, Jacobs and PDB Team work together during the preconstruction phase to pre-plan all significant tie-ins (locations, details, configuration, daily and hourly historical flow conditions, etc.). During construction phase, update plans with additional details, materials, supplies, equipment, staffing and contingency provisions. Coordinate each specific tie-in event date/timing/duration/etc. with City, Jacobs and each applicable Utility provider.
Design & Construction	Issues regarding existing utilities (both above ground and buried) coordination	3	3	9	\$25,000 - \$250,000	Utilizing existing available information and supplemented with 811 locates and existing drawings. Perform subsurface investigations, GPR and soft digging at the beginning of the remaining design phase and incorporate findings into the design. Leverage knowledge available from other utilities and local utility coordinators.
Design & Construction	Poor Community Support/Frequent complaints	2	2	4		City utilize Program Manager led and PDB supported public outreach program to inform the community of planned work and garner interest and support for the Program and these projects. PDB will provide periodic update information for the City/Jacobs Program website.
Design & Construction	Inefficient decision making	2	4	8		Continue to utilize design cluster weekly coordination meetings and workshops to keep City/Jacobs informed and integrated into the progressive design build process and the schedule to communicate decision timeframes to support the project schedule.
Construction	Impacts to public due to construction activities (e.g. Greenway, construction noise, material deliveries)	5	3	15		Identifying during design the anticipated and potential impacts to public. Will prepare and implement closure plans, temporary relocation plans, detailed maintenance of traffic plans, protection/barriers and signage. Use Jacobs led and PDB supported public outreach program to increase awareness to keep community advised of upcoming and active construction impacts.
Construction	Safety of public and construction crews adjacent to project sites and along active parks, greenways, streets and highways	4	5	20		Will prepare and implement detailed maintenance of traffic plans, protection/barriers, signage and utilize public communication to increase awareness. To the extent possible, using pipe routing to minimize heavily populated areas. Will coordinate with and provide notification to businesses and owners.
Construction	Abnormal weather	3	2	6	\$0 - \$750k 3 Wks - 6 Wks	Included average weather conditions in the project plan and develop a contingency for excessive abnormal weather conditions. Flood events at WCEQ and/or SLEQ that restrict or prevent site access and/or flood events that close any of the e2i2 jobsites, especially for extended durations will be impactful to project cost and schedule. Utilize Owner contingency if/when events and conditions occur.
Design & Construction	West Chickamauga Permanent Site Access	3	5	15	\$0 - \$250,000	Awaiting final TDOT approvals for site access (1) via modified existing greenway beneath I75; and (2) emergency construction access off I75N ramp at I24 junction. TDOT did not approve any Greenway license agreement revisions. City is to proceed acquiring property title insurance without access title insurance. Will need TDOT approval of the final temporary and permanent slope stabilization and grading design under I75.
Construction	Damage to work due to flood, fire, extreme weather, etc.	3	3	9	Deductible 0 Mo - 6 Mo	Site layout, design and construction will follow applicable codes/regulations so the completed project meets stated requirements. Design based on 100 year flood, fire marshal requirements, etc. These items may also help mitigate some construction phase risks. Implement construction phase safety plans and protocols (fire extinguishers, evaluating site conditions prior to storms, material and equipment storage locations and conditions, etc.) to mitigate exposure. PDB will also coordinate with Owner to determine most beneficial builders risk insurance coverage to carry as well as related deductibles.
Design & Construction	Safety Requirement for South Chickamauga Greenway Closure at WCEQ Station Parcels/Sites for Phase 2 Duration	5	5	25	\$2M - \$3M 3 Mo - 5 Mo	Temporary closure of the S. Chick Greenway at the WCEQ Station parcels/sites for the duration of Phase 2 is required for public safety and construction crew safety. City/Jacobs/DB have documented to City why closure is required. City/Jacobs will obtain City approval for greenway closure for full duration of Phase 2. Prepare and implement closure plans, signage, etc. as needed. Use Jacobs led and PDB supported public outreach program to increase awareness to keep community advised of this Phase 2 closure.
Design & Construction	Forthcoming Feb 2025 FEMA Flood Map Revisions	5	4	20	\$10,000 - \$50,000	City, Jacobs and PDB team have met and reviewed these changes and the potential impacts to permitting, schedule, cost. SLEQ tank site 60% design, temporary construction access via Lee Hwy and permanent SLEQ tank site access is via Home Serve to try to avoid map impacts.
Design & Construction	SLEQ Tank Site Neighborhood Outreach for Hamilton Village ROW Permanent Site Access Road					SLEQ tank site permanent access will not be via Hamilton Village (Owner design decision).
Design & Construction	EQ Tank Foundation Final Requirements	5	4	20	\$500k - \$2M 4 Wks - 8 Wks	Final EQ tank foundation design (per geotechnical reports) includes undercut and engineered fill. SLEQ tank foundation also includes flowable fill cap (per Geotechnical Report) for the EQ tank membrane floor slab. WCEQ tank foundations include structural mat floor slab for buoyancy conditions and requirements. Extent of additional foundation undercut and final EQ tank structural floor requirements will be coordinated between EQ tank subcontractor, Geotechnical Engineer and PDB.
Design & Construction	Replacement Tree Requirements and Final Landscaping Plan	4	3	12	\$50,000 - \$175,000	Coordinate permitting minimum replacement requirements with LDO during LDO plans review

e2i2 PHASE I RISK REGISTER

Updated: 24-Jul-24

Version: 9

Risk Likelihood: 1 = Least Likely, 5 = Most Likely Consequence: 1 = Minimal, 5 = Significant

Residual Risk Characterization: 0 to 6 = Low, 8 to 15 = Moderate, 16 to 25 = High

Category	POTENTIAL RISK DESCRIPTION	Risk Likelihood	Consequence	Residual Risk Score	Estimated Approximate Range (cost and/or time)	RISK MITIGATION STRATEGY
Design & Construction	EPB Permanent Power & Internet Service & Installation Cost to each Site	3	3	9	TBD	All EPB installation costs will be paid direct by City.
Construction	Special Inspections Professional Services	3	3	9	\$250,000 - \$750,000 Range	Jacobs and PDB Team communicate regularly on construction schedule to coordinate when Services are needed.
Design & Construction	Potential SHPO Construction Monitoring or Other Requirements for S Lee Hwy Conveyance Improvements	2	4	8	\$25,000 - \$50,000	Terracon's cultural resource report recommends the S Lee Hwy Relief Sewer (Robin Dr) site is not eligible for inclusion in NRHP. SHPO will make determination if anything or what needs to be done at this site.
Design & Construction	West Chickamauga Permanent Site Ownership / Land Use Restrictions	4	4	16	TBD	City, WWTA and Jacobs have addressed and resolved the WCEQ property land use restriction. City and Jacobs are coordinating with TDOT, Title Insurance and City to address and finalize WC site access and property acquisition.
Design & Construction	SLEQ Tank Site Permanent Access Road	5	4	20	TBD	SLEQ tank site permanent access will be via Home Serve (Owner design decision). City and Jacobs are coordinating permanent site access agreement terms with Home Serve.
Design & Construction	WCEQ Staging Area - Walmart License Agreement Reversal	1	5	5	TBD	Walmart and B&G have executed the staging area license agreement but Walmart has the right to cancel this agreement. DB will maintain regular contact with the local Walmart store manager, area manager and realty manager throughout Phase 2 to verify Walmart is satisfied and does not plan to cancel this agreement.
Design & Construction	NLH Conveyance Improvements Alignment Changes at ATN & Dillard	5	5	25	TBD	A proposed revised NLH relief sewer alignment has been developed. Croy received TDOT feedback 7/16/24. A revised NLH price will be provided soon to the City. City will review proposed revised alignment with property owners. Terracon will need to update SHPO.

\$3M - \$7M Estimated Approximate Cost Range

0 Mo - 12 Mo Estimated Approximate Time Range

RESOLUTION

A RESOLUTION AUTHORIZING THE INDUSTRIAL DEVELOPMENT BOARD TO DONATE FIFTY THOUSAND DOLLARS (\$50,000.00) FROM ITS FUNDS GENERATED BY ECONOMIC DEVELOPMENT LEASE PAYMENTS TO THE CHATTANOOGA CHAMBER FOUNDATION, A TENNESSEE NON-PROFIT CORPORATION, FOR A WORKFORCE DEVELOPMENT TECH ACCELERATOR PROGRAM IN FURTHERANCE OF ECONOMIC DEVELOPMENT IN THE TECHNOLOGY SECTOR.

WHEREAS, the Mayor has the authority to use and direct the use of certain funds generated by Economic Development lease payments provided in the Agreements for Payments in Lieu of Taxes Workforce Development Grants in furtherance of economic development and technical sector; and

WHEREAS, Tennessee Code Annotated Section 7-53-302(a)(8) provides that an Industrial Development Corporation can, “[s]ell, exchange, donate and convey any or all of its properties, including without limitation, all or any parts of the rents, revenues and receipts of the corporation from its projects, whenever its Board of Directors shall find any such action to be in furtherance of the purpose for which the corporation was organized.

BE IT RESOLVED, that the Industrial Development Board of the City of Chattanooga is hereby authorizing the donation of \$50,000.00 from its funds generated by Economic Development lease payments to the Chattanooga Chamber Foundation, a Tennessee non-profit corporation, for a Workforce Development Tech Accelerator Program in furtherance of Economic Development in the technology sector.

ADOPTED: November 4, 2024

THE INDUSTRIAL DEVELOPMENT
BOARD OF THE CITY OF CHATTANOOGA

Attest:

KERRY HAYES, Chair

GORDON PARKER, Secretary

RESOLUTION

A RESOLUTION AUTHORIZING THE INDUSTRIAL DEVELOPMENT BOARD CHAIR OR VICE-CHAIR TO EXECUTE A PROJECT GRANT AGREEMENT (HIGH GROWTH JOBS AND INVESTMENT PROGRAM) WITH AIS ENCLOSURE SYSTEMS – CHATTANOOGA, LLC.

BE IT RESOLVED, that the Industrial Development Board of the City of Chattanooga is hereby authorizing the Chair or Vice-Chair to execute a Project Grant Agreement (High Growth Jobs and Investment Program) with AIS Enclosure Systems – Chattanooga, LLC.

ADOPTED: November 4, 2024

THE INDUSTRIAL DEVELOPMENT
BOARD OF THE CITY OF CHATTANOOGA

Attest:

KERRY HAYES, Chair

GORDON PARKER, Secretary

**PROJECT GRANT AGREEMENT
(HIGH GROWTH JOBS AND INVESTMENT PROGRAM)
(AIS ENCLOSURE SYSTEMS PROJECT)**

THIS PROJECT GRANT AGREEMENT (this “Agreement”) dated as of the ___ day of _____, 2024 by and between **AIS ENCLOSURE SYSTEMS – CHATTANOOGA, LLC**, a Delaware limited liability company (“Grantee”), and **THE INDUSTRIAL DEVELOPMENT BOARD OF THE CITY OF CHATTANOOGA, TENNESSEE**, a public nonprofit corporation organized under Tenn. Code Ann. §§ 7-53-101, et. seq. (the “Board”).

RECITALS

WHEREAS, pursuant to Tenn. Code Ann. §§ 7-53-101 et seq. (the “IDB Act”), the Board is authorized to assist with certain projects, as defined in the IDB Act, in order to promote economic development and in connection therewith has the authority to donate and convey any of its properties, including its revenues; and

WHEREAS, Grantee has agreed to undertake an eligible project within the corporate limits of the City of Chattanooga, Tennessee (the “City”) and within the boundaries of Hamilton County, Tennessee (the “County”); and

WHEREAS, in order to encourage the undertaking of the Project and the additional employment of citizens of the City and/or the County that will occur as a result thereof, the Board has agreed to provide assistance to the Project in accordance with the terms set forth herein; and

WHEREAS, it is the purpose of the IDB Act to empower the Board to have all powers that may be necessary to enable the Board to maintain and increase employment opportunities in the City and the County, and the IDB Act provides that the Board’s powers are to be liberally construed to allow the Board to accomplish these purposes; and

WHEREAS, the Project will confer a significant economic development benefit to the public, and the assistance provided for hereunder is being provided only for the purpose of attaining a benefit for the general community; and

WHEREAS, for the purpose of establishing the rights and obligations of the parties with respect to the matters described above and related matters, the parties have entered into this Agreement.

NOW, THEREFORE, in consideration of the terms, conditions and mutual agreements by and between the parties, as hereafter set forth in detail, the parties do hereby mutually agree as follows:

1. **Definitions.**

In addition to the capitalized terms defined elsewhere in this Agreement, the following terms shall have the meanings specified below:

“Act of Bankruptcy” means:

(a) Grantee’s filing a petition in bankruptcy or for reorganization under the bankruptcy laws or an admission, answer or other responsive pleading consenting to or requesting the relief afforded by the bankruptcy laws and such case has not been dismissed within sixty (60) days of its commencement; or

(b) the filing against by Grantee of a petition in bankruptcy or for reorganization under the bankruptcy laws and such case has not been dismissed within sixty (60) days of its commencement.

“Baseline Employees” shall mean the employees employed by Grantee in the City as of March 1, 2024 in the positions shown on Exhibit C. Grantee may adjust the positions of the Baseline Employees as needed to efficiently operate its business from time to time provided the payroll for the Baseline Employees does not decrease. For purposes of calculating the number of Baseline Employees for purposes of this Agreement, any vacant positions that Grantee is seeking to fill shall be counted for such purposes.

“Maximum Reimbursement Amount” shall mean \$205,000.

“New Employee Annual Goal” means the goal for the number of New Employees for each year as shown on Exhibit B.

“New Employees” means employees employed by the Grantee in the City after the date of this Agreement in addition to the Baseline Employees with an average annual wage, excluding benefits, equal to or in excess of \$58,639 annually.

“Person” means an individual, a corporation, a partnership, a limited liability company, a trust or any other entity or organization, including a governmental or political subdivision or an agency or instrumentality thereof.

“Project” means the design, construction and equipping of the facilities described on Exhibit A attached hereto to be undertaken by Grantee as provided herein.

“State” means the State of Tennessee.

2. Representations and Warranties

2.1 Representations and Warranties of Grantee. Grantee represents and warrants for the benefit of the Board as follows:

(a) Organization. Grantee is a limited liability company duly organized, validly existing and in good standing under the laws of the State of Delaware, duly qualified to conduct business in the State, is in compliance with the laws of the State, and has the power and authority to own its properties and assets and to carry on its business in the State of Tennessee as now being conducted and as hereby contemplated.

(b) Authority. Grantee has the power and authority to enter into this Agreement and has taken all action necessary to cause this Agreement to be executed and delivered, and this Agreement has been duly and validly executed and delivered by Grantee.

(c) Binding Obligations. This Agreement is a legal, valid and binding obligation of Grantee enforceable against Grantee in accordance with its terms, subject to applicable insolvency laws and equitable principles.

(d) No Litigation. No litigation at law or in equity or proceeding before any governmental agency involving Grantee is pending or, to the knowledge of Grantee, threatened, in which any liability of Grantee is not adequately covered by insurance or in which any judgment or order would

have a material adverse effect upon the business or assets of Grantee or the performance of its obligations hereunder.

(e) No Default. Grantee is not in default under or in violation of, and the execution, delivery and compliance by Grantee with the terms and conditions of this Agreement will not conflict with or constitute or result in a default under or violation of, (i) any material agreement or other instrument to which Grantee is a party or by which it is bound, or (ii) any constitutional or statutory provisions or order, rule, regulation, decree or ordinance of any court, government or governmental authority having jurisdiction over Grantee or its property, and no event has occurred and is continuing which with the lapse of time or the giving of notice, or both, would constitute or result in such a default or violation.

(f) Project. Grantee is familiar with and is capable of satisfying all federal, state and local laws and regulations that may affect cost, progress, performance and furnishing of the Project.

3. Grantee's Obligations

3.1 Approvals. Grantee shall also obtain all approvals necessary for the undertaking of the Project including, without limitation, planning approvals, zoning permits (if necessary), building permits and certificates of occupancy. Grantee shall be responsible for overseeing the compliance of the Project's design and development with all applicable permits, laws, regulations, codes and periodic inspections of all governmental and quasi-governmental local, state and federal agencies and authorities having jurisdiction over the Project. Grantee will also arrange for the appropriate municipal and public utility bodies to provide utility and related services to the Project.

3.2 Undertaking of the Project. Grantee shall diligently pursue and complete the Project in accordance with the terms and conditions of this Agreement, and in furtherance of the foregoing, Grantee agrees to the following:

(a) Commencement of Construction. Grantee shall commence the undertaking of the Project on or before December 31, 2024.

(b) Completion. Grantee shall cause the Project to be substantially completed on or before December 31, 2027, subject to any extensions approved by the Board in writing.

(c) Permits, Licenses, Laws, Regulations and Codes. Grantee shall cause all legally or contractually required permits, licenses and certificates of occupancy to be obtained and paid for and shall be responsible for ensuring that all laws, rules, regulations and codes of federal, state and local governments are observed with respect to all work and operations performed pursuant to this Agreement.

3.3 Additional Grantee Commitments. Grantee shall:

(a) Insurance. Through and until completion of the Project, purchase and maintain or cause to be purchased and maintained the following insurance, in form and substance, and with an insurance company reasonably acceptable to the Board, which may be maintained under blanket or umbrella coverage with the following minimum limits of liability:

(i) Workers' Compensation Insurance covering the statutory requirements of the state of Tennessee; and

(ii) Commercial General Liability Insurance with a limit of not less than One Million Dollars (\$1,000,000.00) per each occurrence for bodily injury, personal injury, and property damage and Two Million Dollars (\$2,000,000) in the aggregate.

Grantee shall from time to time and when requested by the Board deliver certificates evidencing such insurance to the Board.

(b) Annual Reports. Not later than January 31st of each year commencing January 31, 2025, and ending on the January 31st following the last year shown on Exhibit B as to which a grant is expected be paid to Grantee, Grantee shall provide the Board with a written report, in such form as shall be reasonably requested by the Board, that includes the following:

(i) the number of Baseline Employees as of the end of the prior year;

(ii) the number of New Employees as of the end of each calendar quarter in the prior year, and the average of the number of New Employees for each such calendar quarter (the “New Employee Average”).

At the request of the Board, Grantee will submit any information reasonably requested by the Board to determine Grantee’s compliance with this Agreement, including reasonable, adequate documentary evidence to substantiate any information included in any such reports by Grantee.

(c) Cooperation as to Hiring. Grantee will cooperate with the Chattanooga Area Chamber of Commerce, the City, the County and other local community organizations that assist with hiring and workforce development to promote locally hiring opportunities at Grantee.

4. Financial Assistance to Project.

4.1 Subject to the limitations below, the Board agrees to make grants to Grantee to reimburse Grantee for costs incurred by Grantee related to the Project. The amount of such payments and the years as to which such payments shall apply are set forth in the schedule attached hereto as Exhibit B; provided, however, that the aggregate amount of such reimbursement for the term of this Agreement shall not exceed the Maximum Reimbursement Amount and the maximum amount payable as to any year shall not exceed the applicable amount shown on Exhibit B. Exhibit B may provide that the New Employee Annual Goal shall be implemented in annual phases, in which case the grants shall correlate to each phase as shown on Exhibit B. Subject to satisfaction of the conditions below, such reimbursement by the Board to Grantee shall be payable on each March 1st following each year shown on Exhibit B.

4.2 The payment from the Board to Grantee of each annual installment pursuant to this Section shall be subject to the following conditions precedent:

4.2.1 No Event of Default shall have occurred and be continuing;

4.2.2 The Board shall have received a written request from Grantee for reimbursement of the costs relating to the Project as to which reimbursement is requested together with evidence, to the Board’s reasonable satisfaction, that Grantee has paid the costs as to which reimbursement is requested; and

4.2.3 The New Employee Average for the prior year shall have exceeded 90% of New Employee Annual for that year, and the number of Baseline Employees shall not have declined from the date of this Agreement. For the first year for each New Employee Annual Goal, or phase thereof, the New

Employee Average shall be based upon the number of New Employees at the end of the year and not the quarterly average as provided above unless the Board and Grantee agree otherwise. If the New Employee Annual Goal is shown in phases, the phases will be aggregated for purposes of determining whether the condition in this paragraph is satisfied.

4.3 Grantee shall be solely responsible for the amount of all costs, fees and expenses incurred with respect to the Project, other than the reimbursement available in accordance with the terms hereof if the conditions therefor have been satisfied. Grantee agrees that the Board shall not have any obligation to undertake any activities which would cause the Board to incur costs or expenses in excess of the Maximum Reimbursement Amount.

5. Default and Remedies

5.1 Events of Default by Grantee. An “Event of Default” shall occur if:

(a) There shall have occurred a breach by Grantee in any respect under any provision of this Agreement which breach is not cured as provided below; or

(b) An Act of Bankruptcy relating to Grantee shall have occurred.

5.2 Remedies of the Board.

(a) Notice. If there is an Event of Default under Section 5.1(a) hereof, the Board shall not exercise its remedies hereunder unless the Event of Default has not been cured after: (i) written notice to Grantee and (ii) the expiration of thirty (30) days after such notice, provided that in the event any nonmonetary default cannot reasonably be cured within such thirty (30) day period, but can reasonably be cured within a sixty (60) day period, Grantee shall have an additional period of time, not to exceed sixty (60) days, after such written notice to cure such default, provided that Grantee proceeds promptly, diligently and in good faith to cure said default.

(b) Remedies. Upon the occurrence of an Event of Default by Grantee and failure to cure under Section 5.2(a) with respect to an Event of Default under Section 5.1(a), this Agreement may be terminated by the Board by giving written notice to that effect to Grantee.

(c) No Waiver. The failure of the Board to exercise the remedy available to the Board pursuant to the terms of this Agreement shall not be deemed to be a waiver of such remedy or of any of the terms and provisions of this Agreement.

6. General Provisions

6.1 Entire Agreement. This Agreement and related agreements constitute the entire agreement and understanding of the parties with respect to the transactions contemplated hereby, and there are no other terms, understandings, representations, or warranties, express or implied.

6.2 Amendment. No amendment, modification or termination of this Agreement shall be effective unless in writing and signed by the party intending to be bound thereby.

6.3 Third Party Beneficiaries. The parties to this Agreement do not intend the benefit of this Agreement to inure to any third party.

6.4 Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original.

6.5 Time is of the Essence. The parties hereto agree that time is of the essence for the performance of all obligations hereunder.

6.6 Recording. No party hereto shall file or attempt to file this Agreement for record.

6.7 Successors and Assigns. This Agreement may not be assigned by any party hereto without the written consent of all of the other party, which consent shall not be unreasonably withheld, conditioned, or delayed. The sale of all or substantially all of the assets, or the equity interests in Grantee, or a merger or consolidation of Grantee into or with any Person shall constitute a prohibited assignment which, if made without the prior written consent of the Board, shall constitute an Event of Default. Subject as aforesaid, this Agreement shall inure to the benefit of and shall be binding upon the parties hereto and their respective successors and permitted assigns. Notwithstanding the foregoing, Grantee may assign the payments to be made to Grantee under this Agreement to a lender or mortgagee as collateral for a loan.

6.8 Section Headings. The section headings inserted into this Agreement are for convenience only and are not intended to and shall not be construed to limit, enlarge or affect the scope or intent of this Agreement nor the meaning of any provision hereof.

6.9 Governing Law. The law of the State of Tennessee shall govern this Agreement.

6.10 Independent Contractor; Agency. Grantee is an independent contractor and shall not be considered to be a partner or joint venturer with the Board with respect to the Project.

6.11 Approvals by the Board. Any approval by the Board required hereunder may be granted by a duly authorized representative of the Board and not the board of directors of the Board, unless specifically provided otherwise herein.

6.12 Indemnification. Grantee agrees to indemnify and hold the Board and each of its past, present and future officers, directors, employees and agents (each, an "Indemnified Party"), from and against all liabilities, obligations, claims, damages, penalties, fines, losses, costs and expenses, including reasonable attorneys' fees ("Damages") to the extent resulting from Grantee's actions or inactions related to the transactions contemplated hereby and/or the negotiation, execution and performance of this Agreement or the undertaking or operation of the Project. If any action, suit or proceeding is brought against any Indemnified Party for Damages for which Grantee is required to provide indemnification under this Section, Grantee, upon request, shall at its own expense resist and defend such action, suit or proceeding, or cause the same to be resisted and defended by counsel designated by the Indemnified Party and approved by Grantee, which approval shall not be unreasonably withheld. Each Indemnified Party may retain its own counsel and such expenses shall be borne by Grantee. Grantee shall not be liable for any settlement of any such action, suit or proceeding made without its consent, but if settled with the consent of Grantee or if there be a final judgment for the plaintiff in any such action, Grantee shall indemnify and hold harmless the Indemnified Parties from and against any Damages by reason of such settlement or judgment. The obligations of Grantee under this Section shall survive termination of this Agreement. When any Indemnified Party incurs expenses or renders service in connection with any bankruptcy or insolvency proceeding, such expenses (including the fees and expenses of its counsel) and the compensation for such services are intended to constitute expenses of administration under any bankruptcy law or law relating to creditors rights generally. Amounts payable to the Indemnified Parties hereunder shall be due and payable five (5) days after demand and will accrue interest at the highest rate permitted by law, commencing with the expiration of the five (5)-day period.

6.13 Notices. Any notice, consent or other communication given pursuant to this Agreement shall be in writing and shall be effective either (a) when delivered personally to the party for whom intended, (b) on the second business day following mailing by a nationally recognized overnight courier service, or (c) on the fifth day following mailing by certified or registered mail, return receipt requested, postage prepaid, in any case addressed to such party as set forth below or as a party may designate by written notice given to the other party in accordance herewith.

To Grantee:

To the Board:

Industrial Development Board of the City of Chattanooga
c/o Office of City Attorney
100 E. 11th Street
Suite 200
Chattanooga, TN 37402
Attention: Chair

6.14 Severability. The invalidity or unenforceability of any particular provision, or part of any provision, of this Agreement shall not affect the other provisions or parts hereof, and this Agreement shall be construed in all respects as if such invalid or unenforceable provisions or parts were omitted.

6.15 Limitations on Liability. NO RECOURSE SHALL BE HAD FOR ANY CLAIM BASED UPON ANY OBLIGATION, COVENANT OR AGREEMENT IN THIS AGREEMENT OR ANY TRANSACTION OR MATTER RELATING HERETO AGAINST ANY PAST, PRESENT OR FUTURE DIRECTOR, OFFICER, MEMBER, EMPLOYEE, COUNSEL, OR AGENT OF THE BOARD, WHETHER DIRECTLY OR INDIRECTLY, AND ALL SUCH LIABILITY OF ANY SUCH INDIVIDUAL AS SUCH IS EXPRESSLY WAIVED AND RELEASED AS A CONDITION OF AND IN CONSIDERATION FOR THE BOARD ENTERING INTO THIS AGREEMENT. IN NO EVENT SHALL THE CITY BE OBLIGATED FOR ANY OBLIGATION OF THE BOARD HEREUNDER. NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL OR PUNITIVE DAMAGES OF ANY KIND, ARISING OUT OF OR RELATING TO THIS AGREEMENT, HOWEVER INCURRED, WHETHER SUCH LIABILITY IS ASSERTED ON THE BASIS OF CONTRACT, TORT (INCLUDING NEGLIGENCE OR STRICT LIABILITY), OR OTHERWISE, EVEN IF SUCH PARTY IS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES IN ADVANCE BY THE OTHER PARTY. GRANTEE'S MAXIMUM AGGREGATE LIABILITY UNDER THIS AGREEMENT SHALL NOT EXCEED THE AMOUNTS PAID BY THE BOARD TO GRANTEE UNDER THIS AGREEMENT.

6.16 No Government Limitation. This Agreement shall not be construed to bind any other agency or instrumentality of federal, state or local government in the enforcement of any regulation, code or law under its jurisdiction.

[Signatures on Next Page]

[Board Signature Page for Grant Agreement]

IN WITNESS WHEREOF this Agreement has been duly executed by the parties hereto as of the day and year first above written.

INDUSTRIAL DEVELOPMENT BOARD OF THE
CITY OF CHATTANOOGA

By: _____
Chair

[Grantee Signature Page for Grant Agreement]

AIS ENCLOSURE SYSTEMS – CHATTANOOGA, LLC
a Delaware limited liability company

By: _____
Name: _____
Title: _____

EXHIBIT A

Project Description

The Grantee is AIS Enclosure Systems – Chattanooga, LLC. The Grantee manufactures metal buildings that house electrical infrastructure, relay and control panels, modular data systems and power distribution centers that are used on construction sites and active manufacturing facilities. Grantee will purchase property adjacent to its existing facility that will allow Grantee to move product finishing operations to the new property which will open up space on the existing land to expand the manufacturing facility. As part of the expansion Grantee will be creating 82 new jobs by Dec 31, 2027. This expansion will result in a capital investment of \$4.5 million in real property and \$3.8 million in personal property. This expansion will be constitute the Project under this Agreement.

EXHIBIT B

See attached

Grant Payment Schedule*									
	New Employee Annual Goal & Initial Year to Measure Goal		2025	2026	2027	2028	2029	2030	Total
Phase I Net New Employees	15		\$9,375	\$9,375	\$9,375	\$9,375			
Date	12/31/2024								
Phase II Net New Employees	34			\$21,250	\$21,250	\$21,250	\$21,250		
Date	12/31/2025								
Phase III Net New Employees	33				\$20,625	\$20,625	\$20,625	\$20,625	
Date	12/31/2026								
Total Net Employees Phase I - III	82	Total Payout	\$9,375	\$30,625	\$51,250	\$51,250	\$41,875	\$20,625	\$205,000

*The payment dates shall be March 1st following each measurement year.

EXHIBIT C

[Insert list of Baseline Employees]

45934344.2

RESOLUTION

A RESOLUTION AUTHORIZING THE INDUSTRIAL DEVELOPMENT BOARD CHAIR OR VICE-CHAIR TO EXECUTE A QUITCLAIM DEED TRANSFERRING THE HOMESERVE PROPERTY LOCATED AT 7134 LEE HIGHWAY, PARCEL NO. 139P-C-007, GIVEN THE COMPLETION OF THE PILOT INCENTIVE WHICH ENDED DECEMBER 31, 2023.

BE IT RESOLVED, that the Industrial Development Board of the City of Chattanooga is hereby authorizing the Chair or Vice-Chair to execute a QuitClaim Deed transferring the HomeServe property located at 7134 Lee Highway, Parcel No. 139P-C-007, given the completion of the PILOT incentive which ended December 31, 2023.

ADOPTED: November 4, 2024

THE INDUSTRIAL DEVELOPMENT
BOARD OF THE CITY OF CHATTANOOGA

Attest:

KERRY HAYES, Chair

GORDON PARKER, Secretary



One Chattanooga Plan: Roadmap for Economic Development Tools

Supported by two recent studies

1. March 2024, Chattanooga Regional Planning Agency Study **Capital Funding for Mid-Sized Cities and Counties**

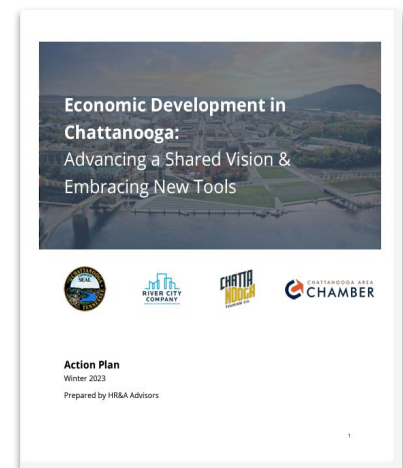
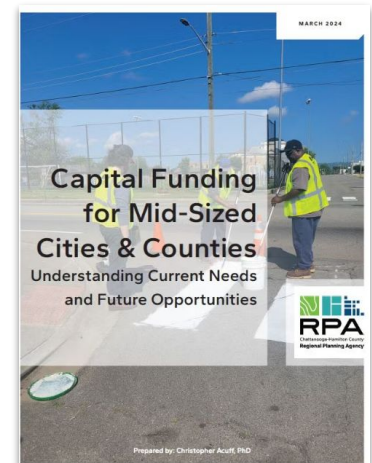
<https://chcrpa.org/project/capital-funding-for-mid-sized-cities-counties/>

1. *Chattanooga spends less per capita on capital projects than comparison municipalities.*
2. *Pay-as-you-go approach with a low debt ratio.*
3. *Lacking in dedicated funding streams*
4. *Provided short-term, mid-term, and long-term options for revenue streams*

2. Winter 2023, HR&A Report **Economic Development in Chattanooga: Advancing a Shared Vision & Embracing New Tools**

City and civic economic development leaders aligned on the need to create four new high-priority economic development strategies – and to advance them through ongoing partnership.

1. *Unlocking currently **vacant or underutilized downtown sites.***
2. *Creating **transparency and clarity for developers seeking public benefits** and positioning the City to negotiate when considering public benefits for developers.*
3. ***Activating commercial corridors** to support local entrepreneurs and build local wealth.*
4. *Incentivizing more companies to **provide work-based learning and improve job access.***



Proposed 2024: Economic Development Business Toolkit

Higher Risk
Sole Proprietor

Medium Risk
Owner & Small Staff

Lower Risk
Executive Staff & Support Staff

1. StartUp 2. Home-based Incubator, Shared Space	3. Neighborhood Businesses Brick and Mortar. Select Home-based, Retail, Restaurant, Commercial, Office, Industrial	4. Growing Businesses Brick & Mortar Commercial, Office, Industrial	5. Large Capital Projects Brick & Mortar Commercial, Office, Industrial	6. Workforce Development Training & Upskilling
<p>Kiva Loan Program Crowdfunding Loan Maximum: \$15,000</p>	<p>Construction Mitigation Walnut Street Bridge Statutory award for minimum 90-day business interruption Maximum: \$1,000</p> <p>HUD Section 108 Loan Program Projects with impact on low to moderate income (LMI) location, customers, and/or employees. \$25,000-\$250,000</p> <p>Neighborhood Reinvestment Small Business Loans Discretionary program for existing businesses. Technical assistance required. Maximum \$15,000</p>	<p>Growing Small Business Grants Statutory reward for 5+ job creation Maximum: \$10,000</p> <p>Innovation Grants Discretionary reward for 10+ job creation</p> <p>Facade & Signage Grants Competitive matching grants for small business facade improvements. Maximum: \$30,000</p> <p>High Growth Jobs and Investment Program Discretionary award for medium-sized projects with at least 25 new jobs in high-growth sector industries.</p>	<p>Payment in Lieu of Taxes (PILOT) Discretionary incentive for job creation and capital investment Future policy changes, templates, monitoring practices, and updated guidelines</p> <p>Industrial Development Bonds</p> <p>Tax Increment Financing (TIF) Discretionary incentive for jobs & infrastructure Future policy changes, standards, and updated guidelines</p> <p>Redevelopment Tax Increment Financing (TIF) Discretionary incentive for housing & infrastructure</p>	<p>Pathway Upskilling and Reskilling Grants Discretionary program to support training for select real-time high-demand sectors</p>

Highlighted Items: FY 24-25 Activities



Chattanooga Tech Accelerator

Data Analyst
Cohort I

The Accelerator Strategy

- **Cross-Sector Employability** — Accelerator graduates are not siloed into just one sector, they are employable across multiple industries.
 - *Ex: There is an emerging demand for Data Analysts across a diverse array of sectors: healthcare, advanced manufacturing, education, insurance, and IT. Graduates have a wider range of options for post-accelerator employment.*
- **Credential-Driven** — Credentials and micro credentials create tangible value for both employee and employer.
- **Track Record of Success** — The Accelerator Model has been used successfully in partnership with municipal partners—most notably with the Washington, D.C. with the municipal Department of Employment Services.
- **Employer-Informed** — We work directly with employers to ensure training is relevant, timely, and marketable. The Accelerator Model begins with a job and works backward to strengthen the pipeline to full-time employment.

Job Outlook: Data Analyst

1. Annual Demand in Chattanooga MSA:

- ~ 55 Openings Annually

2. Annual Wages in Chattanooga MSA: \$40k to \$110k

- *TA grads will be ready to apply for the \$40-50k jobs.*
- *TA grads will be ready to apply for the \$75 to \$110k jobs.*

Skills-Driven Training

- A. Employers pick the skills and microcredentials they want before hiring as an employee or apprentice.
- B. Ability to forefront skills instead of curriculum.
- C. Ability to leverage WIOA workforce funding.
- D. 20% asynchronous content.
- E. Led in person to build teamwork and professional skills

Data Analysis Certificates: (We will narrow down to 4-5 based on employer's input)

1. Microsoft Certified: Data Analyst Associate
Provider: Microsoft
2. Certified Analytics Professional (CAP)
Provider: INFORMS
3. Google Data Analytics Professional Certificate
Provider: Coursera (offered by Google)
4. IBM Data Science Professional Certificate
Provider: Coursera (offered by IBM)
5. AWS Certified Data Analytics - Specialty
Provider: Amazon Web Services (AWS)
6. SQL Certification
Provider: (LinkedIn Learning, or Codecademy)

Tech Accelerator Operations Overview

- A. The accelerator runs 7 weeks, Monday–Friday 5:30pm to 8pm.
- B. In-person instruction co-hosted by ChaTech (tentatively at INCubator).
- C. Participants earn a progressively increasing stipend, and between 4-5 portable, industry-recognized credentials.
- D. Designed to produce job-ready grads prepared for in-demand openings.
- E. Strengthens the talent pool for Registered Apprenticeship Programs (RAPs)
- F. Industry-grade laptops provided by Tech Goes Home (Enterprise Center).
- G. Taught by Industry-expert contract instructors and tutors
- H. Curriculum and certificates provided by Apprenticeship Works and BuildWithin

Story of Successful Tech Accelerator Grad: Chyna Keene

This is Chyna Keene, a DC resident and a graduate of DC DOES & BuildWithin's **Tech Accelerator** program.

Chyna began her career transition to the technology sector in **November 2022** from a career in the service industry (after attending a semester of college). The Accelerator provided training in technology tools, CompTIA certifications, and modern software such as Jira and Intercom.

In **December 2022** Chyna graduated from the Tech Accelerator program and was hired to be a full-time apprentice.

In **February 2023**, Chyna secured full-time employment at an industry-aligned employer. She has since been promoted and works directly with customers and clients all over the world.



Accelerator Outcomes

I. Primary Direct Outcomes:

- A. Hired directly into an entry-level Data Job
- B. Hired directly into a Registered Apprenticeship for advanced Data Analyst.

II. Secondary Outcomes:

- A. Upskill and advance incumbent workers to mitigate the risk of adopting registered apprenticeships for companies.
- B. Design and execute a replicable “on-ramp” for future accelerated training cohorts for advanced-skills learn-and-earn models.
- C. Portable training format that can be integrated into recruitment of future companies and Economic Development.

Tech Accelerator Budget Outlay

Chattanooga Tech Accelerator			
Budget			
<u>Expense</u>	<u>Quantity</u>	<u>Rate</u>	<u>Total</u>
Trainee Stipends	weekly	\$500 average	\$28,000
Instructors	3 Instructors	\$1000 weekly	\$21,000
Incidentals			\$1,000
	Total to Launch Accelerator:		\$50,000

Tech Accelerator In-Kind Contributions

In-Kind Contributions		
	<u>Amount</u>	<u>Contributor</u>
Devices	\$16,000	Tech Goes Home
Meeting Space	\$8,750	ChaTech
Software Licenses	\$7,000	BuildWithin
Certificates	\$8,768	BuildWithin
In-Kind Estimate	\$40,518	

Strategy Roadmap & Sustainability

- **Tech Accelerator Strategy**: Pilot proven program to establish industry partnership and generate candidate engagement.
 - Tech Accelerators have been successfully created, sustained, and expanded in the Washington DC and Los Angeles markets. We are leveraging assets from these markets and customizing them to our local employer landscape.
- **Funding Sustainability**: Several proven options to secure and sustain funding for Tech Accelerators, we are actively pursuing several streams.
 - **Public-Sector funding** via WIOA, USDOL, and other sources are a stable source of support for Tech Accelerators, and we are pursuing them.
 - **Private philanthropy** is a common source to fund Tech Accelerators—both corporate foundations, private grant-making foundations, and individuals.
 - **Employer-Consortium** funding is another highly effective source of funding for Tech Accelerators. Individual companies, professional associations, and other business-adjacent sources are all sustainable sources.



AIS ENCLOSURE SYSTEMS EXPANSION OPPORTUNITY



AIS ENCLOSURE SYSTEMS

- Operating in Chattanooga since 1968, originally Lectrus Corporation. Lectrus Corporation was acquired by Avail Infrastructure Solutions in 2018.
- AIS Enclosure Systems manufactures modular e-houses that house electrical infrastructure, relay and control panels, modular data systems and power distribution centers that are used on construction sites and manufacturing facilities.
- The company currently operates a facility at 1919 W. Polymer Dr., Chattanooga, TN 37421 where they have 104 employees.



EXPANSION OVERVIEW

- AIS Enclosure Systems reached out to the Chattanooga Chamber in September 2023 regarding the potential expansion. The Chamber has partnered with TNECD, TVA, City of Chattanooga, and Hamilton County to support the expansion.
- AIS Enclosure Systems is proposing an expansion of their Chattanooga operations.
 - New Jobs Created: 82 by 12/31/2026
 - Average Wages: \$58,639 annually
 - Estimated New Annual Payroll at full ramp up: \$4,808,398
 - Capital Investment
 - \$4.5 million in real property
 - \$3.8 million in personal property
 - **\$8.3 million total**
 - Chattanooga is competing with GA for the project.



HIGH GROWTH JOBS & INVESTMENT PROGRAM

- Performance based incentive program designed for the creation and retention of net new jobs
- Addressing a need for a tool to support high growth expansions, relocations and new operations that are competitive but do not meet PILOT thresholds.
- Project should be in target industries, create at least 25 new jobs over three years, and have average wages at least 80% of the current Hamilton County average wage to encourage economic mobility
- Incentive payout is based on new jobs and average wages
- The incentive is performance based and would be paid out as the jobs are created and retained
- Proposing \$2,500/job for AIS Enclosure Systems. Total of \$205,000 between 2025 - 2030
- Working with Hamilton County to support 50% of the incentive. Hamilton County Commission hearings are set for Nov. 13th and 20th.



PAYOUT SCHEDULE

Grant Payment Schedule*									
	New Employee Annual Goal & Initial Year to Measure Goal		2025	2026	2027	2028	2029	2030	Total
Phase I Net New Employees	15		\$9,375	\$9,375	\$9,375	\$9,375			
Date	12/31/2024								
Phase II Net New Employees	34			\$21,250	\$21,250	\$21,250	\$21,250		
Date	12/31/2025								
Phase III Net New Employees	33				\$20,625	\$20,625	\$20,625	\$20,625	
Date	12/31/2026								
Total Net Employees Phase I - III	82	Total Payout	\$9,375	\$30,625	\$51,250	\$51,250	\$41,875	\$20,625	\$205,000

*The payment dates shall be March 1st following each measurement year.



COMPLIANCE

- AIS Enclosure Systems will submit an annual compliance report to show that the new jobs were created by December 31st of each proposed ramp up year.
- The company must meet 90% of their proposed job creation to receive any payout for that year.
- Incentive amounts are up-to amounts. If the company goes above and beyond their job creation estimates, the payout remains the same each year and does not accelerate.
- Additionally, the company will submit four quarter average employment figures to ensure that the previous year's jobs are retained.
- Once the City and County have confirmed compliance, the IDB will provide the incentive amount by March 1st of that year's compliance.





Economic Development in Chattanooga: Advancing a Shared Vision & Embracing New Tools



Action Plan

Winter 2023

Prepared by HR&A Advisors

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Introduction:

A shared vision for economic development in Chattanooga

In May 2022, the Chattanooga Mayor's Office released the One Chattanooga Strategic Plan, backed by a commitment to orient the City's investments and energy around the implementation of a roadmap rooted in deep community engagement that lays out the concrete steps to create a city in which all Chattanoogaans can thrive and prosper. Civic leaders from River City Company, the Chattanooga Chamber, and Chattanooga Tourism Company are ready to activate their expertise and resources to support the goals of the One Chattanooga plan by partnering in intentional and strategic ways with the City to spur smart and sustainable growth that benefits all Chattanoogaans.

In June 2022, civic leadership met to discuss how they could work together to advance the vision for a vibrant and equitable Chattanooga put forth in the One Chattanooga Plan. The group discussed what new tools and approaches are needed, and how they can support one another's work toward the One Chattanooga vision. The shared vision that emerged from this workshop is rooted in four commonly held commitments:

1. Economic development strategies should **support a "circular economy,"**¹ one that promotes reinvestment and wealth creation for Chattanooga's residents.
2. Economic development strategies should **reinforce Chattanooga's unique brand:** a city with easy and abundant access to green space, a hub for businesses that are focused on innovation and sustainability, and a city with cultural authenticity.
3. Economic development strategies should **prioritize the development of affordable and mixed-income housing.**
4. Economic development strategies should **draw from a standardized toolkit,** one that can be systematically applied across different project types, is depoliticized, and includes tools that are fully within the City's control to implement.

WORKSHOP ATTENDEES

- City of Chattanooga
 - Mayor Tim Kelly
 - Joda Thongnopnua
 - Jermaine Freeman
 - Sandra Gober
- Chattanooga Chamber
 - Charles Wood
- Chattanooga Tourism Company
 - Barry White
 - Susan Harris
- River City Company
 - Emily Mack
- *Facilitated by HR&A Advisors*

This workshop – and the four commonly held commitments that resulted from it – signal a new era of City and civic collaboration in Chattanooga. In this action plan, we present a set of tools, evaluated against these four shared priorities, that we believe could advance economic development collaboration in Chattanooga.

In October 2022, HR&A met with the new economic development leadership of Hamilton County. For the County, many of these same goals are seen as priorities; the County is particularly interested in an economic development approach that is transparent and standardized and will link people throughout the county to opportunity.

¹ A "circular economy" stands in opposition to economic models that focus on the more linear construct of growth-consumption-obsolence-disposal. In a circular economy, capital is reinvested and repurposed instead of disposed. The intention is to be less extractive and more sustainable. While this concept has been [primarily used](#) in the context of reducing the impact of climate change, it is extrapolated here to mean that growth will not just be a one-time boon that benefits outside developers and the lucky few in Chattanooga; instead, growth will be intentional: it will create local jobs and local ownership, it will produce dividends that can be reinvested in Chattanooga, and it will generate economic momentum that can be used to address long-standing inequities.

Context + Opportunities:

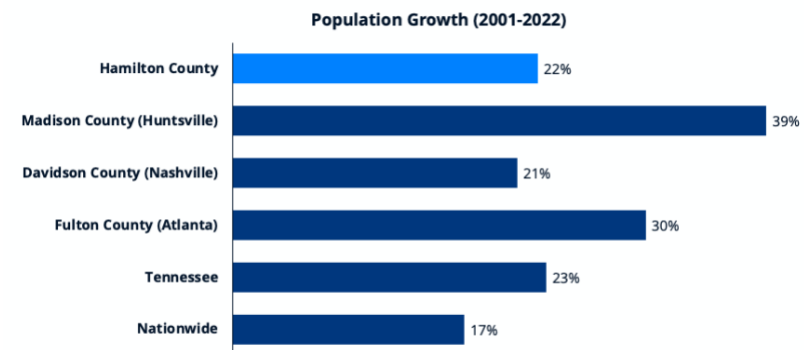
Leveraging growth to unlock new opportunities and shared prosperity

Chattanooga has seen impressive and meaningful growth over the past two decades.

A good quality of life, access to outdoor amenities, and proximity to major hubs such as Atlanta and Nashville have positioned Chattanooga as a desirable place to live. What was once known as the “dirtiest city” in America rapidly became one of the fastest growing mid-sized cities, adding 30,000 residents in the past 20 years – 20% citywide growth. As Chattanooga has grown, it has invested heavily in restoring its downtown and creating inviting parks and open spaces for residents to enjoy. The aquarium and riverfront access transformed downtown into an amenitized neighborhood and sparked an uptick in high-end residential development. Legacy employment sectors such as freight and manufacturing have sustained the city’s economy. The economy has also modernized in recent years with tech companies such as FreightWaves and other startups moving into the downtown innovation district. As the city has invested in its downtown, the tourism industry has flourished.

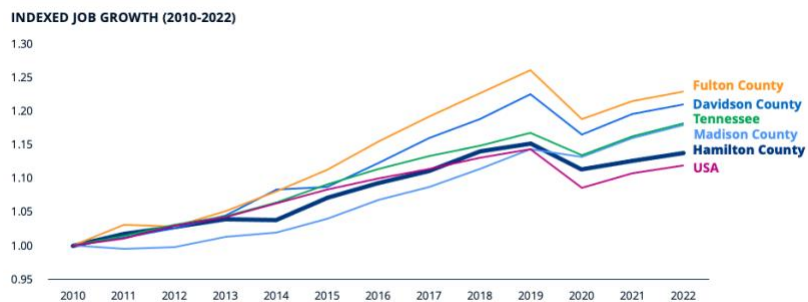
Select growth indicators:

Hamilton County is growing steadily - on par with statewide peers and above the national average.



Data source: Emsi

Job growth in Hamilton County has outpaced the national average but lags regional peers.



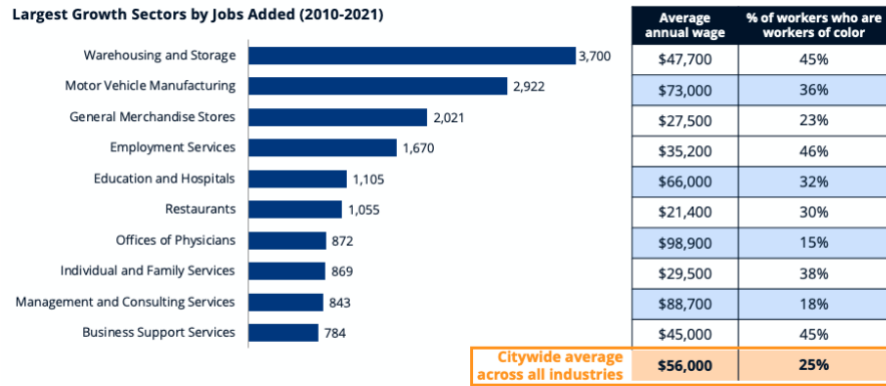
Data source: EMSI

While Chattanooga has been on an upward trend, the city is in many ways now at an inflection point. As the city has grown, so has inequity.

As One Chattanooga states, [“We still have Two Chattanoogas.”](#) Despite impressive growth and promise, Chattanooga is one of the worst cities in America in which to grow up poor, according to [research](#) conducted by *The New York Times*. How one fares in Chattanooga’s economy is still very much determined by the neighborhood in which they live and the color of their skin.

Select indicators of inequity:

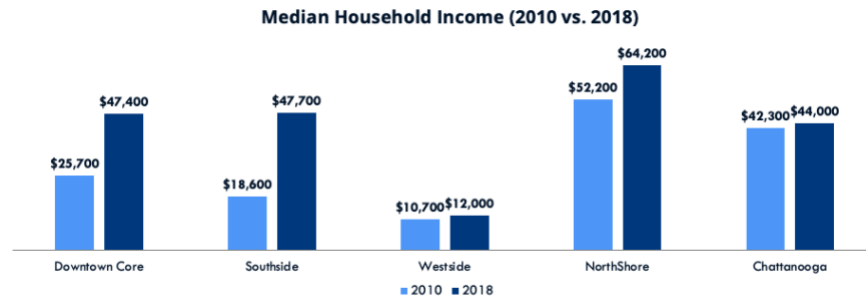
The highest-paying growth industries tend to be those with the fewest workers of color.



Many growth jobs require a post-secondary degree, while only 34% of the Hamilton County workforce holds a post-secondary degree.

High-priority employment sectors	Current jobs in Chattanooga	Growth in past five years	% of jobs that require a post-secondary degree
Engineering and production	37,000	14.8%	40%
Healthcare and medical operations	25,000	10.9%	92%
Logistics and operations	27,000	10.9%	42%
Software and information technology	5,000	1.4%	58%

Median incomes in the Downtown Core and Southside are growing significantly, while median income growth on the Westside has stalled.



Chattanooga has a once-in-a-generation opportunity to support inclusive growth through its robust pipeline of upcoming economic development projects.

Right now, the economic development pipeline in Chattanooga is significant.

- There are over 300 acres slated for reuse within five miles of downtown.
- This redevelopment could translate to over \$1.5 billion in potential private investment.
- There are thousands of housing units in the near-term development pipeline.
- There is sustained growth in the city's technology, medical, and education sectors, with significant new opportunities in electric vehicle manufacturing.

However, leveraging this economic development pipeline in a way that encourages shared prosperity and addresses longstanding disparities will require thoughtful strategies and collaboration. Growth will not be inclusive without intervention.

During the workshop in June 2022, City and civic leaders aligned on a few opportunities for thoughtful intervention:

- Most housing production over the past several years has responded to the demand for more luxury and market-rate units; in the coming months and years, the City and civic leaders are interested in new strategies to support the growth of affordable homes.
- The City and civic leaders are invested in keeping Chattanooga's unemployment rate low while thinking creatively about incentivizing more people to join the city's workforce – including through easier access to childcare and transportation – an important factor in luring growing companies to town.
- An increase in work from home has left downtown towers and office campuses vacant; City and civic leaders are interested in developing new strategies to bring them back to life.
- Given the sustained attention of the development community, City and civic leaders are eager to embrace creative financing and negotiation tools to get projects off the ground and unlock shared prosperity for all Chattanoogaans.

Action Plan:

Deploying new, tested economic development tools in Chattanooga

At the conclusion of the June 2022 workshop, City and civic economic development leaders aligned on the need to create four new high-priority economic development strategies – and to advance them through ongoing partnership.

1. Unlocking currently vacant or underutilized downtown sites.
2. Creating transparency and clarity for developers seeking public benefits – and positioning the City to negotiate when considering public benefits for developers.
3. Activating commercial corridors to support local entrepreneurs and build local wealth.
4. Incentivizing more companies to provide work-based learning and improve job access.

Each of these economic development strategies will require the development and use of new tools. In the following pages, we share initial steps to support the City, the County, and the civic sector in beginning to deploy these new tools in Chattanooga, as well as lessons learned from other cities that have effectively used these tools. For each tool, we assess alignment with the shared priorities that workshop participants articulated in summer 2022.

#1. UNLOCK CURRENTLY VACANT OR UNDERUTILIZED DOWNTOWN SITES

Context

The housing market is tight in Chattanooga: there has been a 15% increase in average rent and a 33% increase in citywide home values over the past decade. In addition, the pace of housing construction in Chattanooga (20% new housing unit growth since 2000) lags behind regional peers (33% in Huntsville and 34% in Atlanta). At the same time, the Riverfront District – once the centerpiece of Chattanooga’s urban revitalization – is perceived as overwhelmingly for tourists and in need of a refresh, and Chattanooga’s core downtown struggles with high vacancy amid the growth of remote work and the rising appeal of Southside and other districts.

City and civic leaders have committed to exploring every possible strategy to address the City’s affordable, mixed-income, and mixed-use housing needs, while injecting new life into Chattanooga’s downtown, including the Riverfront. One option: there is an abundance of surface-level parking lots, vacant sites, and underoccupied office properties downtown ripe for redevelopment and activation. However, current parking lot owners are not incentivized to sell their land as they see high returns on revenue with very little maintenance or operating expenses; meanwhile, conversion of office buildings comes with high costs and physical challenges that cannot be borne by new housing, especially mixed-income housing. Chattanooga has an opportunity to capitalize on the demand for downtown living and the broader need for more housing citywide by redeveloping these sites.

While Chattanooga has a history of using Tax Increment Financing (TIF) for large-scale plans, such as the South Broad development, there is no streamlined process to fund projects that could convert single sites, including surface-level parking and underutilized structures in the downtown core, into more productive uses, such as mixed-income or mixed-use housing. Property tax subsidy, which can be achieved through a TIF, is often required for projects to become realities. Chattanooga could benefit from a simple and replicable process to review and accept site-specific TIF funding with certain thresholds to remove the politics out of each funding request. Chattanooga could also benefit from a comprehensive parking strategy, so developers are not turned away by the burden of having to deliver parking onsite with each project.

There are several economic development tools available to the City and civic partners that could be leveraged to address these issues:

1. Acquire underused sites (at a premium to market value) to reposition them for development.
2. Tax underused sites (i.e. through an increased land tax or vacancy surcharge), which could incentivize parking lot owners to sell their land faster or for reduced amounts.
3. Offer tax incentives and/or density bonuses for underused sites to improve project economics for prospective buyers and increase market demand for the sites.
4. Construct district parking that defrays the cost of site-specific parking, thereby improving project economics similar to #3.

Because purchasing lots outright requires significant capital investment with uncertain future returns, and raising land taxes may face political obstacles, many municipalities turn to tax incentives, density bonuses, and district parking strategies to increase the development value of preferred site reuse and therefore enable buyers to adequately compensate the owners of surface parking lots and/or make building conversion projects economically feasible.

Success stories: how this tool has been effectively implemented elsewhere

Unlocking projects through Tax Increment Financing (TIF)

TIF is a commonly used tool across the South and across the country when costs to build parking or other infrastructure are prohibitive to development, or when the public sector seeks public-serving uses such as affordable housing but there is a financial gap the developers cannot fill. Major neighborhood investment projects such as Broadway Station in Denver, Nashville Yards in Tennessee, Lincoln Yards in Chicago, and the Bayfront development in Sarasota have required public subsidy and TIF. Single-site TIFs are also common to fund important projects rather than districtwide developments.

Clear policies that outline the processes for developers and the public will increase transparency, streamline the TIF application process, and free up funds sooner for priority developments. Some cities have also used TIF negotiations to secure additional public benefits from developers while also helping get their project off the ground. Both Rochester, MN, and St. Louis, MO, have a successful track record passing and utilizing TIF funds for downtown development.

St. Louis – TIF to support affordable housing

A recent example of TIF from St. Louis shows how the tool can be a powerful negotiating point. In 2018, the City of St. Louis approved a TIF commitment for the second phase of City Foundry, a 16.8-acre development, allowing the developer to put new taxes generated by the project toward construction costs. In 2020, the developer re-opened negotiations when they amended the development program, and the City secured its first Equitable Development Contribution of \$1.8 million toward the Affordable Housing Commission (AHC). The funds are restricted to support affordable housing preservation, maintenance, and residential services in the 17th Ward and neighborhoods north of Delmar Boulevard – adjacent to the site. The funds will provide housing assistance to homeowners from vulnerable populations (older adults, low-income households, and people with disabilities).

In St. Louis, TIF allocations require approval from the Board of Alderman and the TIF Commission, which empowers elected officials to represent their constituents' interests while negotiating directly with developers. The city was able to be in control of the TIF process and use their position to negotiate a good deal. City leadership and a clear set of asks positioned St. Louis and the developer for success.

Knoxville, TN – TIF to promote local reinvestment

A \$75 million investment – largely using taxpayer dollars – is going to be used to develop a multi-use stadium in Old City, Knoxville. Through intensive community engagement, labor partnerships, and City Council action, Knoxville has secured a wealth of commitments from developers to help ensure that this funding is reinvested in Knoxville's communities. Critically, these commitments include:

- A local hire preference for construction
- A guaranteed wage floor of \$15.50 per hour, exceeding the state's minimum wage of \$7.25
- Safety guarantees for workers that exceed the state's standards

The City and County are co-leading redevelopment efforts, and they formed a third-party sports authority to oversee the efforts. The project is only feasible through a TIF district because the upfront site and infrastructure costs could not be supported by future revenues from site development. The baseball team partnered with a private development group, the GEM Group, to help lead the planning and contribute \$100M of private funding. TIF district negotiations created a pathway for community and labor groups to advocate for more equitable contributions from the project. The Knoxville-Oak Ridge Central Labor Council became a key advocate during the negotiations. They were intent to make sure that money stays in the local economy.

ALIGNMENT WITH CHATTANOOGA'S SHARED VISION	<ul style="list-style-type: none"> • Within the City's control; does not require State approval • Promotes a "circular" economy, generating reinvestment and wealth creation for residents • Opportunity to reinforce a unique cultural brand
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Unlocking projects through density bonuses

Density bonuses permit developers to construct more units on a site than would normally be allowed by the underlying zoning code if the developer agrees to produce a set number of affordable units within the development or provide an alternative form of public benefit. This strategy has been used to encourage mixed-use, mixed-income, and affordable housing development across the country.

Austin, Texas

Austin has 10 density bonus programs, including a Downtown Density Bonus Program that incentivizes the creation of affordable housing. Through this program, at least half of the developments' qualifying density use must either be onsite affordable housing or a contribution to the city's Affordable Housing Trust Fund. To qualify, developers must comply with a set of [transparent community benefit standards](#), such as green building.

In 2019, Austin launched a new two-tier density bonus program called "Affordability Unlocked," which allows developers to select the level of affordable housing they want to develop on a specific site in exchange for a level of density benefits they can unlock. For example, if a certain percentage of units is affordable, developers can increase their base zoning height by 1.25 times or build up to six homes in a single-family zone. For higher levels of affordability, base zoning height increases by 1.5 times and developers can construct up to 8 homes per lot.

The State of Texas preempts mandatory inclusionary zoning (zoning regulations that require affordable housing in the event of a re-entitlement) – so all of Austin's density bonuses are voluntary incentives that developers can opt into.

ALIGNMENT WITH CHATTANOOGA'S SHARED VISION	<ul style="list-style-type: none"> • Within the City's control; does not require State approval • Promotes a "circular" economy, generating reinvestment and wealth creation for residents
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Unlocking projects through parking authorities

The other barrier to development, especially in downtowns, is that creating new parking for each newly developed project can be cost prohibitive. One path forward is to create district TIF boundaries and/or purchase agreements to fund shared parking facilities in central locations that serve multiple developments. Chattanooga already benefits from having a Chattanooga Parking Authority, a division of CARTA, that operates more than 4,000 parking spaces, including three structured parking garages, and has experience financing new facilities and improvements on the basis of parking revenue and in concert with the City and other public entities. Leveraging CARTA's expertise and authority to create parking solutions that enable development – and then waiving parking requirements for new development proximate to those spaces – could replicate strategies in cities such as Philadelphia, Yonkers, and Norwalk, where publicly funded or enabled garages have been critical to district transformation.

ALIGNMENT WITH CHATTANOOGA'S SHARED VISION	<ul style="list-style-type: none"> • Within the City's control; does not require State approval
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Action steps: How Chattanooga could adopt these tools

<p>PROPOSED APPROACH</p>	<p>In Chattanooga, we recommend:</p> <ul style="list-style-type: none"> • Creating a TIF template for single-site redevelopment based on common site challenges downtown • Exploring density bonuses that would improve downtown development economics • Exploring the use of district parking strategies to defray costs of private development or repositioning <p>For the TIF and density bonus strategies, we recommend the City of Chattanooga take the lead on implementation, with the Chamber and River City providing partnership and support.</p> <p>For the district parking strategies, we recommend that the City partner with CARTA to lead implementation, with River City providing partnership and support.</p>
<p>ESTIMATED BUDGET & STAFFING</p>	<p>Studies to inform inclusionary housing, density bonuses, and other development incentives typically range from \$75,000 - \$200,000. Local philanthropic partners are one vehicle to support these studies and policy formation.</p> <p>In addition to the cost of studies, the development and adoption of these three policies will also require:</p> <ul style="list-style-type: none"> • Staff time and legal costs to structure individual site TIFs or issue bonds for shared parking facilities • Bonding for capital costs for parking facilities (if they are approved)
<p>ADDITIONAL STUDY OR DECISION-MAKING NEEDED</p>	<p>The City could conduct or commission a study to develop these three policies, grounding them in thresholds and practices that have worked effectively in other cities and aligning them with local and state regulations in Tennessee. To structure these policies, the City will need a detailed real estate economic analysis to understand the level of support needed (whether via TIF, density bonus, or parking strategy) to unlock various categories of underused sites, including surface parking lots, vacant sites, and underused office properties, among others. This study should recommend a subsidy framework based on the specific public benefits the City would like to see, informed by outreach to property owners, developers, and community stakeholders. This study should also evaluate how the density bonus policy for the City of Chattanooga could generate significant momentum toward Mayor Kelly's priority to build affordable housing units and could help to fully capitalize the Mayor's affordable housing fund.</p> <p>Once the policies are adopted, we recommend that the City's offices of housing, city planning (given zoning implications), and economic development coordinate on the ongoing management of these policies – monitoring their effectiveness and making adjustments as needed to continue encouraging the conversion of underutilized properties into affordable and mixed-income housing.</p> <p>Adoption of both policies will likely require City Council approval.</p>

ROLES OF:	
<i>The City</i>	Hold primary responsibility for overseeing the process to establish TIF, density, and other guidelines, articulating the goals of these policies, and working with City Council to secure approval for the adoption of these policies.
<i>The County</i>	Publicize the program and help attract developers interested in leveraging these new tools.
<i>River City Company</i>	<ul style="list-style-type: none"> • Lead the study on these three policies and shape recommendations to the City on how to structure these policies to be most impactful. • Engage downtown property owners and developers to support deals that make use of these new tools. • Publicize the program and help attract developers interested in leveraging these new tools.
<i>The Chattanooga Chamber</i>	<ul style="list-style-type: none"> • Engage the business community and philanthropic sector to help secure additional needed funding for this program. • Publicize the program and help to attract developers interested in leveraging these new tools.
<i>Chattanooga Tourism</i>	Publicize the completion of projects that activate new spaces in the downtown to draw in tourists and local visitors.
BENEFITS AND POSSIBLE RISKS OF EMPLOYING THE TOOL	<p>This tool has the potential to decrease the number of surface parking lots and vacant sites and buildings in the downtown corridor and produce new development that advances the City's goals. Most notably, the density bonus could help the city meet its affordable housing goals and produce a new mechanism to help capitalize the Mayor's Affordable Housing Trust Fund. The TIF policy will help reduce barriers to development for developers interested in helping the City meet its housing goals.</p> <p>This approach presents several possible risks, including:</p> <ul style="list-style-type: none"> • If the policies adopted by the City are too rigid to apply to a varied mix of underused sites, they may miss the full potential to incentivize site reuse • Offering subsidies to unlock specific sites could raise expectations of subsidy among developers of sites that do not need public support. <p>Both of these risks can be managed through (1) rigorous study to inform policy creation, and (2) clear and transparent communication about the policy standards once adopted.</p>
PROPOSED STEPS TO BRING THE PUBLIC ALONG	<p>According to workshop participants, it will be important to ensure the public and the City Council understand why special actions are needed to make certain development projects feasible and/or to motivate developers to include public benefits such as affordable housing in their projects. As these new policies are being shaped and adopted, we recommend an education campaign - starting with the Council and including County officials and major community organizations - to demystify the development process and put in context the range of incentives needed to deliver public benefits, including examples from peer municipalities.</p> <p>For these three tools, we also recommend that this education campaign highlight the potential for significant benefits that enjoy broad-based public support: (1) an activated downtown that is fun to visit and supports the regional economy; (2) mixed-income, mixed-use housing; (3) new economic opportunities that produce funding streams that advance the City's equity goals.</p>

#2. CREATE TRANSPARENCY AND CLARITY FOR DEVELOPERS SEEKING PUBLIC BENEFITS, AND POSITION THE CITY TO NEGOTIATE WHEN CONSIDERING PUBLIC BENEFITS FOR DEVELOPERS

Context

Regional and national developers are increasingly interested in the Chattanooga real estate market, drawn by lower land prices and development costs relative to Nashville, Atlanta, and other surging regional markets, as well as the city's steady population and economic growth and widely regarded quality of life. Without thoughtful intervention, Chattanooga could miss an opportunity to translate this influx of economic investment into new opportunities for shared prosperity for all Chattanoogans. Recent experiences – such as the redevelopment of Unum's parking lots downtown – represent the no-action scenario: these developments have followed the market and have delivered luxury rental and ownership housing inaccessible to most Chattanoogans.

The City has already thought deeply about its own priorities for future economic investment and articulated them in the One Chattanooga plan. The City and its civic partners now have an opportunity to translate the vision of One Chattanooga into tangible action items and “asks” from developers in exchange for land use entitlements, use of public land, tax abatements, or public infrastructure improvements. Asks such as minimum amounts of affordable housing, MWBE participation in contracting, and local hiring could help create a more equitable and resilient local economy.

Currently, each development seeking public support is subject to a one-off negotiation, in which the public's interest is tied to different concessions based on the development site and developer. This can lead to confusion and missed opportunities. With numerous prominent sites – including the Bend, the Lookouts Stadium, the TVA Campus, the BlueCross BlueShield corporate campus, and numerous downtown sites owned by the City and civic partners – ripe for redevelopment and reuse, the City has an opportunity to establish clear guidance around the minimum package of public benefits required from these developments in exchange for public support.

Success stories: how this tool has been effectively implemented elsewhere

Tropicana Field – A new standard in community-serving development

Tropicana Field was once a predominantly African American community known as the Gas Plant neighborhood in the center of St. Petersburg, Florida. The construction of I-275 and I-175 in the 1960s to 1970s displaced and isolated Gas Plant from surrounding neighborhoods. After decades of site clearing through urban renewal programs, the neighborhood became the site of a redevelopment plan with a Major League Baseball stadium constructed in 1990. Today, Tropicana Field is home to the Tampa Bay Rays, surrounded by 80+ acres of parking.

As the stadium reaches the end of its useful life, the City (which owns the land), is leading a public RFP process to re- envision the site, seeking master developers with public benefits as a leading criterion for selection. The City led a community engagement process to inform the 21 Guiding Principles of Development, which aimed to center equity and evoke an element of restorative justice through the redevelopment. [Public benefits](#) sought included a minimum commitment to affordable housing

SUMMARY COMPARISON: Community Benefit Commitments of the Two Finalist Developers for Tropicana Field

June 9, 2022 Release 1

By Gypsy C. Gallardo, CEO, Power Broker Media Group & Urban Market Analytics



within the development, a commitment to use local, minority owned developers, and a local hire minimum threshold. The RFP was focused on attracting a mix of value-creating uses and delivering on community needs. An 18-month evaluation of RFP responses culminated in a preliminary selection of a master developer in December 2021. To provide transparency into the process, proposals and the evaluation of the shortlisted proposals were published on the City's website. The feasibility of each program, the financial offer, and the community benefits package were all presented in easily digestible formats for the community to see. The evaluation process also weighted the commitments of community benefits of equal importance to the program and financial terms.

The initiative was led and run by the Mayor's Office of Economic Development by two dedicated staff members. The City Council had to approve the initial RFP and then codify the Mayor's selection with a vote. As an incentive to developers, the city stated upfront that they were willing to establish a TIF to capture and reinvest \$75M to support the project. This allowed for developers to clearly know the city's public funding commitment from the start, along with benefits priorities as codified in the 21 Guiding Principles. As the RFP was released prior to COVID, the new mayoral administration has re-released the RFP with the same ethos. There were three community engagement sessions leading up to the release with the goal of addressing even more community needs brought to light from COVID, with master developer selection now underway.

<p>ALIGNMENT WITH CHATTANOOGA'S SHARED VISION</p>	<ul style="list-style-type: none"> • Within the City's control; does not require State approval • Promotes a "circular" economy, generating reinvestment and wealth creation for residents • Opportunity to reinforce a unique cultural brand
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Asheville, NC – Regulating minimum standards for public benefits

In 2021, the City and City Council in Asheville adopted regulations that mandate – in a fully transparent manner – the minimum level of public benefits that hotel developers must offer. These standards are published in a [Public Benefits Table](#) that matches the level of public benefit to a project's size and location. The City has been transparent about its goals: transparent public benefit standards are intended to leverage development to advance the City's goals and meet community needs, while also protecting against negative impacts of development.

Hotel developers can select from among community benefits, including:

- Donating to a City affordable housing or reparations fund.
- Adaptive reuse of a historic building.
- Committing to living wages, above the minimum wage threshold.
- Committing to contracting with local women- and minority-owned businesses.

Among these public benefits, the City currently prioritizes affordable housing and reparations – and therefore requires that at least 50% of the benefits that developers offer to meet the City's standards must come from these two categories.

These regulations were intentionally generated by the City and Council to create transparency and predictability in the development process. The Public Benefits Table also encourages expediency and efficiency: if a developer exceeds the minimum standard of public benefits, they can unlock expedited staff-level review of their project and avoid full City Council review.

Action steps: How Chattanooga could adopt this tool

<p>PROPOSED APPROACH</p>	<p>In Chattanooga, we recommend that development and implementation of this tool be led by the City's Office of Economic Development. This will ensure that the transparent set of community benefit standards developers need to meet in exchange for public subsidy are implemented consistently and aligned with the goals of the One Chattanooga plan. To accomplish this, we recommend translating the One Chattanooga plan into a discrete list of public priorities (e.g., no less than a set percentage of affordable units or M/WBE participation) and illustrative examples (e.g., setting aside a specific portion of retail space for new businesses incubated through the City's local entrepreneurship program).</p> <p>Setting these standards could be an opportunity for partnership between the City and the County since more deals could involve tax breaks from both entities and support from the County-led development authority or other financing entities.</p>
<p>ESTIMATED BUDGET & STAFFING</p>	<p>We recommend that development of these standards involve a meaningful opportunity for community input, along with policy/precedent research and detailed financial analysis. Should the City decide to commission this work, the budget would likely be between \$100,000 and \$250,000, depending on the scope of outreach and level of detail of the standards.</p> <p>Although the City's guidelines should set clear expectations and minimum standards for developers, finalizing the terms of each deal will still require staff time to negotiate terms based on the unique attributes of each project. Implementation will likely require at least one staff member from the City's Office of Economic Development to hold relationships with developers and negotiate the final packages.</p>
<p>ADDITIONAL STUDY OR DECISION-MAKING NEEDED</p>	<p>To develop the community benefits standard, we recommend that the City conduct or commission a study to draft the standards, align them with regional and national thresholds that developers have accepted, and ensure the standards comport with local and state law. Once the standards are developed, they may require City Council approval to be adopted as official City policy.</p>
<p>ROLES OF:</p>	
<p><i>The City</i></p>	<p>Hold primary responsibility for designing and implementing the policy, including commissioning a study to develop the standard set of community benefit thresholds, transparently broadcasting these standards to developers, and negotiating the final terms of each deal.</p> <p>The City will also be responsible for working with the City Council to secure adoption of the community benefit standards as official City policy.</p>
<p><i>The County</i></p>	<p>Ideally, the County and City will develop standards together, as final deals could involve tax breaks from both entities.</p>
<p><i>River City Company</i></p>	<ul style="list-style-type: none"> • Engage the business community and philanthropic sector to help secure additional needed funding for the creation of this policy, as needed. • Publicize the program and help to attract new developers and support deals.
<p><i>The Chattanooga Chamber</i></p>	<ul style="list-style-type: none"> • Publicize the program and help to attract new developers and support deals.

<i>Chattanooga Tourism</i>	<ul style="list-style-type: none"> Publicize the program and help to attract new developers and support deals.
<p>BENEFITS AND POSSIBLE RISKS OF EMPLOYING THE TOOL</p>	<p>This tool has the potential to produce both efficiency and equity. Efficiency because the City will be able to spend less staff time negotiating the terms of subsidy for each development; and equity because these standards will help to align all development in Chattanooga with the goals of the One Chattanooga plan. In addition, setting clear and transparent guidelines may attract additional private investors to Chattanooga, knowing their own negotiations will be streamlined and predictable.</p> <p>This approach risks ineffectiveness if the standards are not attuned to regional and national best practices, informed by community input, and compliant with state law. From an economics standpoint, there is a risk that thresholds that are too aggressive could make major developments infeasible or disincentivize investment in Chattanooga. Overly aggressive thresholds also risk State intervention. As such, we recommend a robust study and meaningful community engagement process to develop standards that will work.</p>
<p>PROPOSED STEPS TO BRING THE PUBLIC ALONG</p>	<p>This program could be accomplished with relatively modest investment, and we recommend publicizing this – along with the potential to explicitly, publicly, and uniformly tie new development in Chattanooga to tangible wins for residents and progress on equity.</p>

#3. ACTIVATE DOWNTOWN AND NEIGHBORHOOD COMMERCIAL CORRIDORS

Context

Downtown and neighborhood commercial corridors in Chattanooga, like in many other cities across the county, have struggled during the COVID-19 pandemic and have not bounced back to their full vibrancy and potential. Downtown, office workers have not come back in full force since the COVID-19 pandemic, and while tourism has largely rebounded, business travel has not yet bounced back and is negatively affecting the hospitality industry. While some Main Street corridors and neighborhoods outside of the downtown core have seen a resurgence of foot traffic and activity, as COVID-19 changed people's preference for working and shopping closer to home, there remains a need to further activate "village nodes" across Chattanooga's neighborhoods, and multiple neighborhood corridors have longstanding vacancy issues that predate the pandemic.

Citywide, small business owners need support as they recover from the pandemic. Activated commercial corridors are not only beneficial to business owners but are also vital to attracting residents, visitors, and office workers; supporting resident needs; sustaining Chattanooga's economy; and supporting jobs. Small business support programs right now are mainly focused on business promotion through the Chattanooga Chamber and do not yet address commercial corridor vibrancy or vacancy.

Opportunity to unlock shared prosperity: Mayor Kelly's administration has made intentional efforts to support entrepreneurs of color and close the longstanding racial wealth and opportunity gap, most recently through a [\\$2.9 million investment](#) using American Recovery Plan Act funding. This investment includes:

- \$1.4 million to develop a City-led minority business resource center to provide technical assistance and access to capital for minority entrepreneurs.
- \$800,000 for [CO.LAB](#) to help develop a new Founder's Fund that will provide direct investments to help scale minority-owned startups and small businesses.
- \$250,000 to [the Net Resource Foundation](#) to help revitalize the long-neglected Alton Park business district.
- \$250,000 to [RISE](#) and \$200,000 to [LAUNCH](#) to accelerate minority-owned startups in the culinary arts industry through development of a teaching kitchen and kitchen incubator.

Aligned with these priorities, activating commercial corridors by creating new opportunities for local small businesses presents an opportunity to accomplish two things: downtown and neighborhood commercial corridor vibrancy and new wealth-building opportunities for residents who have historically been marginalized from economic growth.

Other cities have been successful in creating innovative programs to activate their downtown and neighborhood commercial corridors while also creating new opportunities for local small businesses and entrepreneurs. For example, Detroit and Memphis have launched programs through their economic development offices to help small businesses flourish and help landlords activate vacant retail spaces. Below are the key features of these programs and action steps Chattanooga can take to implement a similar strategy.

Success stories: how this tool has been effectively implemented elsewhere

Memphis: Open on Main

The Downtown Memphis Commission (DMC) launched [Open on Main](#), a pop-up retail business incubator, in 2016 to fill vacant retail spaces that were driving away visitors. The program supports small businesses and entrepreneurs by providing an opportunity for them to market their goods to build brand identity and test their business concept without investing in a ground floor retail space. Simultaneously, the program activates vacant ground floor spaces in Downtown Memphis with pedestrian retail, helping local landlords keep their spaces filled. The DMC leases space from landlords and property owners for \$750/month and provides modest space upgrades. They also pay for utilities and wi-fi to create turnkey occupancy for local businesses. The DMC leases have historically covered two downtown properties for one-year leases (often renewed for the same space).



The DMC is the city's downtown economic development organization. The DMC is funded by an assessment on commercial property in the Central Business Improvement District (CBID), which is reinvested into funding incentives such as "Open on Main" and activations designed to support the growth of both Downtown's population and appraised commercial property values. The overall DMC budget is \$90M distributed across its programming. DMC staff are responsible for reaching out to property owners with known vacant space to recruit them to the program (this is done ad-hoc as staff have excess capacity). Additionally, DMC staff are responsible for reviewing applications on rolling basis from prospective retail tenants who sign leases on a month-to-month basis. In an interview, DMC staff shared with HR&A that if they had a larger budget and more staff capacity to support this program, they would double down on offering participating businesses additional help with marketing and revenue plans to help them launch permanent businesses once they have completed their rotation in the program's temporary space.

<p>IMPACT</p>	<ul style="list-style-type: none"> The program has seen impressive success: it has supported 39 store operators over five years with 80% M/WBE participation.
<p>ALIGNMENT WITH CHATTANOOGA'S SHARED VISION</p>	<ul style="list-style-type: none"> Within the City's control; does not require State approval Promotes a "circular" economy, generating reinvestment and wealth creation for residents Opportunity to reinforce a unique cultural brand

Detroit: Motor City Match

Detroit has created a similarly popular program called [Motor City Match](#), which connects new and expanding businesses with services and space to grow, providing them with the funding and tools to thrive. Detroit's City Council recently approved \$15 million in American Recovery Plan funding to double the grants provided by this program, which has helped 138 entrepreneurs open their brick-and-mortar businesses

The program has four goals:

- Create economic mobility.
- Distribute program resources equitably with a focus on low to moderate income entrepreneurs.
- Create jobs for underserved communities.
- Increase access to capital for MWBEs.



The program helps businesses at many stages from early business formation, to finding space for businesses, providing technical

assistance and subject-specific workshops. Businesses are placed on one of two types of tracks: Financial assistance or technical assistance, with four program awards in each track category, including:

- **Plan** – one-on-one consulting, classes and workshops, and access to technical assistance for up to 15 entrepreneurs seeking to refine, formalize, and become transactional with a business idea.
- **Develop** – one-on-one consulting, classes and workshops, access to technical assistance and professional services for up to 25 businesses seeking to develop their idea, create a plan for growth, and choose an appropriate location for their next phase of development.
- **Design** – one-on-one consulting, classes and workshops, access to technical assistance and professional services for up to 10 businesses that have secured a location, settled on an appropriate growth plan, and need to create a design and program specific to that location.
- **Cash** – Up to \$500,000 in grants and loans for up to 15 projects that have secured a location, settled on an appropriate growth plan, and created a design and program specific to that location. The maximum grant award is \$100,000 per project. Businesses must have money ready to invest, whether it's their own equity, financing, or both. Loans are facilitated through Motor City Match lending partners.

The Detroit Economic Growth Corporation (DEGC) administers Motor City Match on behalf of the City of Detroit. Staff are responsible for identifying vacant storefront spaces through DEGC's broader work with commercial corridors; reviewing applications on a quarterly basis; and (once businesses complete technical assistance and are ready for brick-and-mortar space) matching businesses with retail spaces. Staff must therefore be familiar with a range of topics including, business financial planning, business regulatory requirements, business growth, and real estate.

Funding for support services comes from the U.S. Department of Housing and Urban Development Community Development Block Grants (CDBG) program. The program also receives support from Bank of America, Fifth Third Bank, Ford Foundation, Fred A. and Barbara M. Erb Foundation, Hudson Webber Foundation, JPMorgan

Chase & Co., Knight Foundation, The Kresge Foundation, New Economy Initiative, and the W.K. Kellogg Foundation.

IMPACT	<ul style="list-style-type: none"> • After 19 rounds, Motor City Match has served 1,540 businesses with \$9.1 million in grant funds.
ALIGNMENT WITH CHATTANOOGA'S SHARED VISION	<ul style="list-style-type: none"> • Within the City's control; does not require State approval • Promotes a "circular" economy, generating reinvestment and wealth creation for residents • Opportunity to reinforce a unique cultural brand

Action steps: how Chattanooga could adopt this tool

PROPOSED APPROACH CAPACITIES NEEDED	<p>In Chattanooga, we recommend that River City Company hold responsibility for implementing this program, leveraging their commitment to activating the core downtown and relationships with landlords and community organizations in neighborhoods across Chattanooga who may be willing to participate in this program.</p> <p>This program should be structured as a close partnership with the City, to integrate its recent investments in entrepreneurship and closing the racial opportunity gap into this program, and with the Chattanooga Chamber, which can contribute its business support and incubation services and property owner relationships.</p>
ESTIMATED BUDGET & STAFFING	<p>We estimate that this program will require \$1 million in its first year and \$500,000 in subsequent years to secure 10 downtown spaces for this program, either through discounted rent to landlords or direct support to small business lessees. This budget assumes \$50,000 per retail space per year (\$1 per square foot per month; 2,000 average square feet per space; and a 1.5 multiplier for occupancy costs) as well as an equal amount to make improvements to spaces needed to support this program.</p> <p>This budget assumes that the City could leverage its recent \$2.9 million investment in entrepreneurs of color to provide the technical assistance and support to participating entrepreneurs.</p>
ADDITIONAL STUDY OR DECISION-MAKING NEEDED	<p>To effectively launch this program, we recommend studies that include a vacancy survey and initial discussions with property owners; an outreach and marketing plan to equitably reach participants; development of a curriculum for the incubation program; and the development of a more detailed budget and fundraising strategy.</p> <p>We recommend that River City dedicate a half-time employee to programmatic design and management and leverage other staff to help identify and secure government funding sources – such as U.S. Department of Housing and Urban Development Community Development Block Grants – that could be used to support this program. We recommend that the City dedicate a point person within the Office of Economic Development to support this program.</p>
ROLES OF:	
<i>The City</i>	<p>In partnership with the Chamber and community-based organizations:</p> <ul style="list-style-type: none"> • Provide ongoing technical assistance and support to entrepreneurs.

<i>The County</i>	<ul style="list-style-type: none"> • Possibly contribute public funding to support leasing storefronts. • Publicize the program and help to attract a customer base for participating entrepreneurs.
<i>River City Company</i>	<p>Hold primary responsibility for designing and implementing the program, including:</p> <ul style="list-style-type: none"> • Identify participating entrepreneurs, in partnership with the City and the Chamber. • Publicize the program and help to attract a customer base for participating entrepreneurs. • Engage downtown property owners and help to secure their interest in participating in this program. • Gather data on impact and reporting programmatic successes to the public. • Identify public, private, and philanthropic funding that will be devoted to leasing downtown storefronts. • Publicize the program and help to attract a customer base for participating entrepreneurs.
<i>The Chattanooga Chamber</i>	<ul style="list-style-type: none"> • In partnership with the City, provide ongoing technical assistance and support to entrepreneurs. • Engage the business community and philanthropic sector to help secure additional needed funding for this program. • Publicize the program and help to attract a customer base for participating entrepreneurs.
<i>Chattanooga Tourism</i>	<ul style="list-style-type: none"> • Publicize the program and help to attract visitors and a customer base for participating entrepreneurs.
<p>BENEFITS AND POSSIBLE RISKS OF EMPLOYING THE TOOL</p>	<p>This tool has the reinvigorate downtown and neighborhood corridors. By drawing foot traffic, Chattanooga can build on decades of consistent work to revitalize its downtown and “village nodes” – and may be able to provide a helpful counterbalance to recent attention and investment that has been focused on the Bend and the Westside. This activation will in turn increase downtown sales, City and County tax revenues, and the ability to reposition vacant and underutilized sites downtown.</p> <p>Assuming the intention of this program will be to incubate businesses that, after a year or two, are able to fly on their own and rent space either downtown or in other Chattanooga neighborhoods, this program may have the additional benefits of (1) increasing the base of local businesses that generate wealth for Chattanoogaans from historically marginalized backgrounds and (2) creating new demand for downtown space through the incubation of successful businesses. Tourists seek authentic experiences; they would likely rather patronize a small local business that Chattanoogaans themselves support, rather than a national chain they could visit in any City. Incubating businesses that represent Chattanooga and locating them in commercial corridors will improve the tourism experience, feeding back into the local economy and tax revenues.</p> <p>Successful implementation will require targeted marketing to draw customers and residents downtown and into “village nodes” – and to connect this program to Chattanooga’s unique cultural authenticity. It will also require ongoing support to help ensure that participating entrepreneurs have the tools they need to succeed. If, after two years, incubated businesses are not able to operate independently, RCC and the City may face the choice of continuing to subsidize their rent (which would mean not welcoming new participants) or vacating the participant, knowing that this could mean that their business would fail.</p>

<p>PROPOSED STEPS TO BRING THE PUBLIC ALONG</p>	<p>In public messaging about this program, we recommend highlighting the relatively modest public investment required to operate this program along with the potential for significant benefits that enjoy broad-based public support: (1) an activated downtown that is fun to visit; (2) homegrown businesses that celebrate Chattanooga’s unique culture; (3) new economic opportunities that move the city toward One Chattanooga, in which all residents can thrive.</p>
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#4. INCENTIVIZE MORE COMPANIES TO PROVIDE WORK-BASED LEARNING AND IMPROVE JOB ACCESS

Context

Despite technically low unemployment citywide and sustained population growth, many Chattanoogaans – and an outsized portion of Black Chattanoogaans – earn less than family-sustaining wages and struggle to support their households. Chattanooga has been successful at attracting major employers in numerous growth industries – including technology, manufacturing, logistics, and healthcare – that pay above-average wages and offer opportunities for career advancement, but without careful intervention on the part of both employers, local government, and civic partners, it is not at all certain that the Chattanoogaans in greatest need of improved earnings will secure those jobs, or that major public investment in attracting these employers will meaningfully improve the livelihoods of Chattanoogaans from historically disinvested communities.

Greater effort is needed to a) motivate Chattanoogaans who would benefit from these jobs (many of whom are employed but earn less than they could) to seek out jobs in sectors/roles that are foreign to them, b) provide the wraparound support needed to enable these Chattanoogaans to take part in necessary training (e.g. stipends, childcare, transportation, coaching), and c) work with employers to provide ongoing support to boost retention, by looking beyond compensation to help ensure that these workplaces are inclusive and treat their employees well.

Since employers are often focused on the immediate need to fill positions, and training providers such as community colleges are often overstretched and may struggle to communicate with employers, having an intermediary that can coordinate with employers, providers, and community organizations that know prospective workers best is an increasingly successful model to bridge connections between economic need and economic opportunity.

Success stories: how this tool has been effectively implemented elsewhere

Rework America Alliance

The Rework America Alliance, a national approach operational in cities across the country, helps people from low-wage roles move into good jobs that provide livable wages and career growth. The model involves collaboration among civil rights organizations, nonprofits, private sector employers, labor unions, and educators and is premised on expanding the career opportunities of millions of workers who have developed skills through experience but do not have a bachelor's



degree – particularly people of color and women who face systemic barriers to job opportunities. The model was first deployed in Indiana and Rhode Island, where low unemployment rates masked a segment of the workforce that was chronically underemployed. The model involves two strategies:

- Intensive, ongoing support from career coaches whose support is tailored to address specific challenges and opportunities affecting Black, Latino, and low-income communities; and
- Outreach to employers and business groups, in collaboration with local partners, to open access to good jobs by driving the adoption of inclusive sourcing and talent management practices that focus on skills rather than degrees and reducing bias in hiring.

Housed within the Markle Foundation, the model is backed by a study of the job histories of 29 million people across more than 800 occupations to look at how to realize the potential of the more than 5.8M workers from low-wage roles currently underemployed and without a college degree. The model employs actionable steps that can be taken to help these workers to return to work in better roles.

The Rework America Alliance’s tools can be used by any city to develop an intermediary with the partnerships necessary to provide end-to-end support that connects disengaged workers with good-paying jobs. With funding from JPMorgan Chase, the initiative [recently expanded](#) to five new cities.

Colorado – Laying the foundation for success in high-growth industries

The CareerWise model, which began in Colorado and has since expanded to five other regions across the country, functions as a proven intermediary in which students are offered opportunities to pair in-classroom learning with on-the-job apprenticeships. The model was designed with two aims: to address the skilled worker shortage and the “the unrealistic expectation that our nation’s schools must prepare students for today’s in-demand jobs without the involvement of industry.” The model places diversity, equity, and inclusion at its core and aims to increase equity and prosperity for students of all backgrounds and for local employers. The program serves a diverse range of students in a three-year program that aims to teach students both hard and soft skills required for success in high-performing, rapidly growing industries. At the conclusion of the program, students have:



- Meaningful work experience
- A nationally recognized industry certification
- A professional network
- The opportunity to earn debt-free college credit

The program is run independently, in [close partnership](#) with the local department of education, universities and technical schools, and employers. National philanthropies funding the work include Bloomberg, the Bill and Melinda Gates Foundation, the Markle Foundation, and the Walton Foundation.

<p>ALIGNMENT WITH CHATTANOOGA'S SHARED VISION</p>	<ul style="list-style-type: none"> • Within the City's control; does not require State approval • Promotes a “circular” economy, generating reinvestment and wealth creation for residents • Opportunity to reinforce a unique cultural brand
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Action steps: How Chattanooga could adopt these tools

<p>PROPOSED APPROACH</p>	<p>In Chattanooga, we recommend two things:</p> <ul style="list-style-type: none"> • The Chattanooga Chamber conduct or commission a study to determine how it could most effectively serve as an intermediary between the County's education system, the City's workforce and economic development programming, and large employers interested in basing their operations in Chattanooga. This study could produce a set of agreements and workflows between the City, the County, local technical schools and universities, and the Chamber that could position Chattanooga to create a responsive pipeline that helps to attract talent and match workers with emerging opportunities. • The City and County each conduct or commission a review of resources, programs, and planned investments that could be leveraged to incentivize existing residents to join the workforce and new workers to move to Chattanooga. The outcome of these reviews would be an inventory of programs, services, planned investments, and public transportation plans and a set of recommendations about how to leverage existing resources to support the shared goal of incentivize work-based learning in Chattanooga.
<p>CAPACITIES NEEDED</p>	<p>We recommend that the Chamber dedicate at least .5 FTE to manage the study on how to structure a talent pipeline intermediary, and that the City and the County each dedicate .5 FTE to manage the review of existing resources, programs, and planned investments that could be leveraged to incentivize work-based learning. Completing this review will likely entail some limited staff time from City and County agencies to participate in interviews / complete surveys.</p>
<p>ESTIMATED BUDGET</p>	<p>Commissioning two studies on how to create a talent pipeline intermediary and align City and County assets toward incentivizing work-based learning will likely require \$100,000 - \$200,000 to analyze opportunities and develop recommendations. The City and Chamber could partner with philanthropic and business partners to cover some of the cost of both studies.</p>
<p>ROLES OF:</p>	
<p><i>The City</i></p>	<p>Hold primary responsibility for structuring a review of existing City resources, programs, and planned investments that could be leveraged to incentivize existing residents to join the workforce and new workers to move to Chattanooga.</p>
<p><i>The County</i></p>	<p>Hold primary responsibility for structuring a review of existing County resources, programs, and planned investments that could be leveraged to incentivize existing residents to join the workforce and new workers to move to Chattanooga.</p>
<p><i>River City Company</i></p>	<p>Once the talent pipeline intermediary is developed, encourage downtown employers to use it and publicize its existence to attract new employers to Chattanooga.</p>
<p><i>The Chattanooga Chamber</i></p>	<ul style="list-style-type: none"> • Lead the study to develop the talent pipeline intermediary and then assume responsibility for serving as the talent pipeline intermediary, based on the structure recommended in the study. • Once the talent pipeline intermediary is developed, encourage employers to use it and publicize its existence to attract new employers to Chattanooga.

	<ul style="list-style-type: none"> Engage the business community and philanthropic sector to help secure additional needed funding for these studies and for ongoing implementation.
<i>Chattanooga Tourism</i>	<ul style="list-style-type: none"> Once the talent pipeline intermediary is developed, encourage employers to use it and publicize its existence to attract new employers to Chattanooga
BENEFITS AND POSSIBLE RISKS OF EMPLOYING THE TOOL	<p>Chattanooga is starting from a strong position: unemployment is low and private employers are willing to cover the costs of on-the-job training. With greater coordination, planned public investments in transportation and affordable housing can be leveraged to incentivize new workers to seize opportunities in Chattanooga.</p> <p>This will require ongoing action from the City and County to identify how its current and planned investments and programs can be used to encourage existing residents to join the workforce and attract new workers to move to Chattanooga. It will also require the Chamber to build a system that is flexible and responsive, and able to link workers to emerging opportunities.</p>
PROPOSED STEPS TO BRING THE PUBLIC ALONG	<p>Developing a thoughtful and effective intermediary in Chattanooga will require a serious investment and ongoing commitment. To bring the public along, it may be helpful, in public messaging about this program, to demonstrate how disparate economic conditions and opportunities are today, and the meaningful growth in earnings available if Chattanooga can help low-wage workers (and the next generation) transition from low-paying jobs without advancement potential into positions with a real career track. The return on investment is strong if one factors in all the costs associated with poverty – building new pipelines to wealth and opportunity in Chattanooga can, therefore, justify public subsidies to attract large employers to Chattanooga and build a thoughtful intermediary.</p>

Conclusion

Chattanooga's City and civic leaders are ready to deepen their coordination and work toward a shared set of goals. The City has oriented its investments and energy around the implementation of Mayor Kelly's One Chattanooga strategic plan, a roadmap rooted in deep community engagement that lays out the concrete steps to create a city in which all Chattanoogaans can thrive and prosper. Civic leaders from River City Company, the Chattanooga Chamber, and Chattanooga Tourism Company are ready to activate their expertise and resources to support the goals of One Chattanooga by partnering in intentional and strategic ways with the City to spur smart and sustainable growth that benefits all Chattanoogaans.

The actions recommended in this action plan will enable the City and its civic partners to lay the foundation for economic development that produces more affordable homes, more wealth-generating opportunities for residents, new workers ready to seize opportunities in growing industries, and meaningful progress on equity.

Capital Funding for Mid-Sized Cities & Counties

Understanding Current Needs
and Future Opportunities



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Executive Summary

Comparative Data on Chattanooga

- Census of Governments capital outlay estimates show that Chattanooga tends to spend less (per capita) on capital projects compared to other municipalities with over 100,000 residents — both in the South and nationwide.
- Historically, Chattanooga has relied more on a pay-as-you-go approach compared to other cities, demonstrated by the city's relatively low debt ratio, which has helped maintain the AAA bond rating, but leaves room — if desired — for the issuance of bonds if necessary for larger capital projects.
- Chattanooga generally lacks dedicated funding streams for capital projects, with the exception of enterprise funds and revenue bonds. Comparable governments in Alabama, Georgia, North Carolina, and Tennessee have some dedicated funding stream (excluding enterprises) for capital projects that makes capital improvement planning more predictable from year-to-year.

Alternative Funding & Financing Solutions

- A number of innovative funding and financing approaches have been developed in recent years, as well as potential options currently authorized under Tennessee state law, and other mechanisms that would require authorization by the Tennessee General Assembly. Some of these options are highlighted below, categorized as current, medium, and longer-term alternative revenue strategies, based on the time to implementation. These alternatives are designed to increase existing revenue sources and/or earmark funds for capital projects beyond existing general fund revenues, traditional bonds and grant funding, and pay-as-you-go approaches.

Currently Available Alternative Revenue Strategies

- Increasing property tax rates, and allocating a certain percentage to capital projects
- Implementing a wheel tax in Hamilton County
- Increasing the \$5 motor vehicle license fee in Chattanooga
- Continued strategic use of tax increment financing and business improvement districts
- Utilizing more of the city's debt limit to finance projects through bonds
- Authorizing bond anticipation notes where faster up-front funding would be beneficial
- Utilizing public-private partnerships where appropriate
- Exploring more innovative bonds (e.g. green bonds) and infrastructure investment funds (e.g. pension funds or investment banks) to finance projects

Medium-Term Alternative Revenue Strategies

- Increasing the local option sales tax in Chattanooga and/or Hamilton County up to 0.5%
- Implementing additional surcharges for public transportation up to 2.75%

Longer-Term Alternative Revenue Strategies

- Authorizing an additional 0.5% surcharge central business district and/or tourism development zones
- Implementing impact fees (or other authorized taxes/fees) on new development
- Authorizing and expanding the use of a state infrastructure bank

Introduction & Background

As a recent report by the Organisation for Economic Co-operation and Development (OECD) argues, infrastructure is crucial to economic development both locally and regionally, and that “quality public investment can positively affect long-term growth, labor productivity, quality of life and private investment” (OECD, 2023, p. 2). Unfortunately, the same report also notes that investment in infrastructure in the United States has steadily decreased in the last half-century when measured as a percentage of GDP, with the primary responsibility falling on state and local governments (OECD, 2023). It is no surprise to any state or local official that there is a significant need for investment in new infrastructure improvements, deferred maintenance projects, and other capital needs; and, also, that funding for such projects present a sizable financial challenge for the vast majority of state and local governments, who are simultaneously balancing other policy priorities such as ensuring strong employment and economic development initiatives, expanding access to affordable housing, providing social support services, maintaining public safety, and creating cultural and recreational opportunities for residents that contribute to vibrant communities and quality of life for residents.

A 2022 report from the Tennessee Section of the American Society of Civil Engineers (ASCE) assessed the State of Tennessee on 13 infrastructure categories, including bridges (B), parks (C+), roads (C), solid waste (C+), stormwater (C+), transit (D+), and wastewater (C-), among others, rating the overall state as a “C” for the state of the state’s infrastructure condition, above the national average of a “C-,” but the same as that given to Tennessee in the ASCE’s 2016 assessment. However, the ASCE did note recent improvements to the state’s infrastructure condition, thanks to recent increases in both federal and state funding, including the Bipartisan Infrastructure Law, Inflation Reduction Act, and the American Rescue Plan Act at the federal level, as well as Tennessee’s 2017 Improving Manufacturing, Public Roads and Opportunities for a Vibrant Economy (IMPROVE) Act and substantial investments in roads, bridges, and other projects such as increased investment in Tennessee’s state parks. While the report recognizes that the state has decreased or eliminated the local match formerly required of some infrastructure projects such as bridge replacement projects, the ASCE also notes the continued challenges local officials face in addressing ongoing financial impacts in maintaining and replacing aging infrastructure that in some cases is well over a half-century old (Tennessee Section of the American Society of Civil Engineers, 2022).

Recently, the Tennessee Advisory Commission on Intergovernmental Relations (TACIR) estimated \$ 3.24 billion in infrastructure needs for Hamilton County¹, including projects in the conceptual stage (\$ 1.03 billion) as well as the planning, design, and construction phases (\$ 2.2 billion) (TACIR, 2024). Additionally, the City of Chattanooga’s FY 2024–2028 Capital Improvement Plan has identified \$ 317.8 million in general governmental projects over the next five years, as well as an additional \$ 469.4 million in capital improvements directed towards stormwater and wastewater projects paid out of enterprise funds. For these reasons it is critical to identify funding opportunities to close this “infrastructure investment gap,” as the majority of funding responsibility (55.4%) falls on state and local governments (OECD, 2023). Compounding this problem, major infrastructure projects often involve substantial intergovernmental coordination — both vertically (state-local) and also horizontally (local-local) — due to the fact that many infrastructure projects often span administrative boundaries, and as all subnational governments are competing for finite resources. Further, as the OECD (2023) points out, a sizable portion of federal funding, such as the Infrastructure Investment and Jobs Act, and very often state funding, is disbursed via competitive processes, many smaller governments and those with limited capacity to engage in grantsmanship often get left further behind, leaving only own-source revenues to close the gap. Locally, this

¹This estimate excludes primary and secondary public schools, as well as (post-secondary) colleges and universities.

has the potential to leave a number of small cities in Hamilton County outside the scope of traditional funding streams without viable alternatives.

According to the National League of Cities' 2023 *City Fiscal Conditions* survey, aside from overall increases in costs due to inflation (25%), respondents identified infrastructure needs (19%) as having the greatest negative effect on municipal budgets. Further, half (50%) of the cities surveyed in the same report indicated that they were less able to meet balanced budget requirements in FY 2024 — the highest percentage since the Great Recession (Farhad et al., 2023). For many, this is likely an unsurprising statistic due to the fact that inflation has impacted nearly every sector and household in the United States. According to the Bureau of Labor Statistics' index, the cost of construction materials alone increased by over 43% from January 2020 to January 2024 (BLS, 2024; OECD, 2023). Compounding these challenges is the fact that local governments often face numerous constraints when it comes to raising additional revenues, from state preemption on the tools cities and counties can use to fund capital projects and the amounts local officials are allowed to raise (often referred to as *tax and expenditure limits*), to the political and economic consequences inherent in any decision to change the tax structure in any locale (Singla et al., 2021).

As such, the nature of this report has two broad goals in mind. First to explore alternative capital funding mechanisms available to local governments in order to optimize a greater portion of general operating revenues for other priorities; and, second, to examine how Chattanooga and Hamilton County compare to other local governments both in Tennessee and in the Southeastern United States when it comes to capital funding. Thus, the subsequent sections are organized in the following manner. First, a broad comparative assessment of Chattanooga and Hamilton County's estimated capital expenditures and debt capacity are explored in order to give context to the current economic environment. Overall, it is clear from Census of Governments data that both Chattanooga and Hamilton County are both low-debt, but also relatively low-expenditure locales when it comes to capital expenditures. While smaller per capita debt ratios and lower expenditures are not necessarily a bad thing, and are indicative of a more fiscally conservative approach to capital funding — primarily a “pay-as-you-go” strategy — it is often the case that faster-growing communities finance between 50–75% of capital projects through the issuance of debt (Vogt, 2004; Marlowe et al., 2009). That being said, there is room for greater debt capacity on behalf of Chattanooga and Hamilton County, if warranted, as well as opportunities for greater investment as the city and county continue to grow along with a widening infrastructure gap.

Next, an examination of alternative revenue sources and funding mechanisms is explored, including those which could be implemented in the nearer term if approved by Chattanooga City Council or Hamilton County Commission, as well as those requiring approval via a voter referendum and/or the State of Tennessee, and longer-term options which would require statutory changes by the Tennessee General Assembly. These alternative revenue sources include more proximate options that are currently available to local officials, including an increase in property tax rates, the implementation of wheel taxes or an increase in the city's motor vehicle license fee, or the issuance of additional bonds where appropriate for a given project. Other strategies would require multi-year or even longer-term horizons due to requirements that certain approaches be approved by voters or alternatives not yet available either statewide or locally which would require action by the Tennessee General Assembly. Additionally, it is clear that with the implementation of almost any own-source alternative revenue (e.g. taxes, fees, or surcharges) that both financial and political factors will shape the decisions of city and county leaders. For this reason the subsection entitled *Considerations Related to Funding Sources & Approaches* provides some examples from the Federal Highway Administration's Office of Innovative Program Delivery which outlines considerations such as revenue potential, timing of revenue, ease of implementation, and public acceptance (D'Angelo et al., 2019).

Finally, an assessment of four peer cities and one peer county was conducted in order to more specifically assess where Chattanooga and Hamilton County stand in comparison to other growing metropolitan areas within our region, and also to gauge what other capital funding alternatives are being pursued that may be useful for local officials to consider here. Within these peer governments, several trends emerge which may give some perspective on how Chattanooga and Hamilton County could emulate other cities and counties in our region who are simultaneously addressing the “growing pains” associated with needed capital investments while also embracing the opportunities that coincide with growth in these thriving communities.

It is clear from these five peer groups that bonds and loans are used to a greater extent compared to Chattanooga and Hamilton County. As mentioned earlier, local governments often pivot from a *pay-as-you-go* to a *pay-as-you-use* approach when experiencing faster growth (Vogt, 2004; Marlowe et al., 2009), and while Chattanooga and Hamilton County are not experiencing the same level of growth as some larger metropolitan areas, there are arguably infrastructure and capital needs that are indicative of our own increases in population and expansion both in smaller cities outside of Chattanooga and in unincorporated areas of Hamilton County in recent years. Additionally, it is clear that many local governments have implemented specific dedicated funding mechanisms and dedicated revenue streams towards capital projects, directed at both *pay-as-you-go* and *pay-as-you-use* approaches. Lastly, there are several alternative financing tools and even greater opportunities for cities and counties in other areas to benefit from traditional financing approaches compared to Chattanooga and Hamilton County. These include options such as state infrastructure banks, the ability to assess impact fees on new development, and special purpose local option sales taxes (SPLOSTs) available in Georgia. While the Tennessee General Assembly has authorized certain surcharges for projects such as public transportation in recent years, other tools could provide even greater access to funds for other capital projects while still requiring public approval.

Comparative Nationwide Data on Capital Expenditures & Debt

The following data were derived from the U.S. Census Bureau’s 2018–2021² Annual Survey of State and Local Government Finance (United States Census Bureau, 2018–2021). The tables and figures below include estimates for capital expenditures for cities over 100,000 population and counties over 200,000 population, as well as a subset of those in the South.³ Although these estimates provide a general baseline for comparison, these data should *not* be regarded in the same manner as detailed information contained in respective city and county budgets, capital improvement plans, and annual financial reports (contained in subsequent sections). Thus, the actual dollar amount for Chattanooga or Hamilton County, for instance, may differ from the estimates calculated by the Census Bureau.

Estimates included below for municipal and county governments’ capital outlay categories were derived from the U.S. Census Bureau’s *Government Finance and Employment Classification Manual*. It should be noted that only *Construction* and *Land and Existing Structures* were included in these outlay estimates, and expenditures directed towards *Equipment* were excluded from these totals. Additionally, these categories were selected as those closest to the functional responsibilities of Chattanooga and Hamilton County, and excluded capital expenditures related to categories such as hospitals, toll roads, or water supply, as those are not the primary responsibility of these respective local governments. While education is under the purview of county governments in Tennessee (aside from municipalities with school systems and several special districts), it was excluded from this report and the capital expenditure categories below.

As shown below, [Table 1](#) includes the annual per capita expenditures for municipalities and townships with populations over 100,000 (both nationally, and in the South), as well as counties with populations over 200,000. Additionally, [Table 2](#) shows the average per capita capital expenditures by category for the years 2018–2021. As mentioned earlier, these data are only estimates, and the City of Chattanooga does not have functional responsibility over all of these expenditure categories. (A full listing of the included capital outlay categories is included in the [appendix](#).) Additionally, it should be noted that all of Hamilton County’s capital expenditures were categorized as “Other and Unallocable” for these four years; thus, the county equivalent breakdown was not included.

Table 1: Annual Per Capita Capital Expenditures, FY 2018–2021 (in Dollars)

Category	Fiscal Year			
	2018	2019	2020	2021
Chattanooga	144.85	173.89	214.59	228.34
Southern Municipalities (100k+)	259.14	319.62	331.71	326.09
All Municipalities (100k+)	316.26	341.48	350.19	348.03
Hamilton County	40.46	86.17	1.87	19.89
Southern Counties (200k+)	144.63	141.55	148.54	166.25
All Counties (200k+)	119.80	127.91	135.93	142.21

Source: United States Census Bureau (2018–2021)

²Due to the fact that data are not yet available for 2022, this section only includes these four years, compared to the remainder of the individual city and county analyses which generally cover fiscal years 2018–2022.

³Here, the South is defined as the following states: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia.

Table 2: Average Annual Per Capita Capital Expenditures by Category, FY 2018–2021 (in Dollars)

Category	Cities w/Populations 100k+		
	Nationwide	South	Chattanooga
Central Staff Services	7.63	8.08	—
Correctional Institutions	4.94	5.79	—
General Public Buildings	19.83	19.17	0.01
Housing and Community Development	18.15	10.54	26.27
Judicial and Legal	1.28	1.68	0.00
Libraries	6.95	4.85	—
Local Fire Protection	8.71	10.50	10.17
Parking Facilities	7.23	9.97	—
Parks and Recreation	26.10	29.90	13.24
Police Protection	7.92	10.69	6.04
Protective Inspection and Regulation	4.03	1.17	—
Public Mass Transit	32.83	19.12	15.20
Regular Highways	66.60	56.97	—
Sewerage	67.71	67.69	— ⁴
Solid Waste Management	9.94	7.47	—
Other and Unallocable	49.86	46.01	119.47
Total	339.71	309.62	190.42

Source: United States Census Bureau (2018–2021)

Local Government Debt

Included below are the average per capita estimates for outstanding debt at the end of fiscal year 2021 for the City of Chattanooga, all municipalities nationwide (with 100,000+ residents), and municipalities (over 100,000) in the South. Included are three types of debt as well as the aggregate total: short-term debt outstanding at the end of the fiscal year; long-term public debt outstanding; and long-term public debt for private purposes. Public debt for private purposes is often referred to as “conduit debt” and is typically used for development (downtown, industrial, or urban redevelopment) where the government issues a debt but a private third-party is the obligor. As shown in Table 3, the City of Chattanooga has significantly less debt per capita with (\$1,302) compared to other municipalities nationwide (\$2,362) and in the South (\$2,433).⁵

Table 3: Estimated Per Capita Debt, FY 2021 (in Dollars)

Category	Cities w/Populations 100k+		
	Nationwide	South	Chattanooga
Short-Term	217.48	150.19	15.74
Long-Term Public	3,204.97	3,376.33	3,617.58
Long-Term Private	1,094.97	1,055.65	273.39
Total	2,361.67	2,432.98	1,302.24

Source: United States Census Bureau (2018–2021)

⁴The Census of Governments classifies Chattanooga’s sewerage expenditures as operating expenditures rather than capital; and, thus, was not reported here to remain consistent with the comparison data. However, for FY 2021, it was reported that Chattanooga’s outlays on sewerage was \$75.9 million, or roughly \$415 per capita.

⁵This is approximately the same as reported in the FY 2021 City of Chattanooga ACFR, which puts the *net direct and overlapping debt per capita* at \$1,493.53.

Alternative Revenue Sources for Chattanooga and Hamilton County

As Singla et al. (2021) note, the most basic financing mechanisms cities and counties have at their disposal for infrastructure needs are: own-source revenues (i.e. taxes and fees, indicative of a pay-as-you-go approach); borrowing and financing from external sources (i.e. bonds and other loans, reflecting more of a pay-as-you-use approach); and, intergovernmental revenues from state and/or federal sources (i.e. grants or specific allocations from higher levels of government). In order to explore alternatives to these traditional financing mechanisms, each of the following potential revenue sources in the subsequent section are divided into three broad categories, using the same typology developed by Chen and Bartle (2022): *New Funding Sources*; *New Funding Mechanisms*; and, *New Financial Arrangements*.

These three approaches are mostly conceptualized on the basis of temporal and legal (or statutory) feasibility, with the understanding that all of the following options may not be available under Tennessee law now or in the future. However, it should be noted that given applicable statutory changes at the state level, many of these could become an option in the future if cities and/or counties were granted the authority by the Tennessee General Assembly. While a number of these alternative approaches are growing in popularity, a 2016 International City/County Management Association (ICMA) survey revealed that the majority of governments do not use these methods, opting for more traditional ways of financing capital projects and infrastructure improvements. According to the ICMA survey (Singla et al., 2021), the most popular tool in use is tax increment financing (34.8%), followed by developer (impact) fees and exactions (33.5%), public private-partnerships (27.5%), and special assessment districts (25.8%). The least popular among these methods in the same survey included crowdfunding (1.9%), as well as social impact bonds, green bonds, and grant anticipation revenue vehicle bonds (GARVEEs), all with less than one percent of local government officials indicating that they were already in use (Singla et al., 2021).

In addition to the typology created by Chen and Bartle (2022), D'Angelo et al. (2019) provide an in-depth overview of capital financing sources which are aimed mainly at generating funding for transportation-related projects, but many of which are applicable approaches to other capital projects, including both initial investments as well as ongoing operations and maintenance (O&M). In their report (*Value Capture Implementation Manual: Capitalizing on the Value Created by Transportation*), the authors include a number of case studies related to each technique and approach, which could prove to be useful for both Chattanooga and Hamilton County. D'Angelo et al. (2019) also provide a comprehensive overview of selecting appropriate value capture techniques for various fees, financing, and other revenue generating techniques, including legal considerations, market assessments, political feasibility, economic conditions, equity considerations, and potential implementation challenges. An overview of these approaches and considerations are included in Table 7. In addition to Chen and Bartle (2022) and D'Angelo et al. (2019), the following summaries also include reports from state and federal sources, as well as organizations such as the ICMA, Government Finance Officers Association (GFOA), and other sources which have compiled reports on infrastructure financing in recent years.

New Funding Sources

Local Option Sales Taxes

In addition to property taxes, sales taxes generally represent a significant portion of revenues for city and county governments. In cities and counties relying on a pay-as-you-go strategy for funding capital projects, these revenues become even more important. Additionally, unlike property taxes and other

revenue sources, non-residents also contribute to the sales tax base as commuters, tourists, and other visitors often contribute in meaningful ways to the sales tax base. Along those lines, a recent study in North Carolina found that one *in-commuter* represents approximately \$1,000 in taxable sales for a county in a given month, and that an average visitor’s hotel stay represents a \$525 contribution to the tax base for each given night; these figures represent approximately 17% and 12%, respectively, of the median county’s tax base in North Carolina (Afonso and Moulton, 2024).

In Tennessee, cities and/or counties are authorized to implement a local option sales tax of up to 2.75% within their borders; however, a number of cities and counties — including Chattanooga and Hamilton County — have not maximized this potential and have the opportunity to make the case to voters that up to an additional 0.5% represents an opportunity to increase local governments’ ability to fund necessary projects. According to the [Tennessee Department of Revenue](#), of the 380 municipal taxing jurisdictions⁶ in the state, approximately two-thirds of municipal taxing jurisdictions in Tennessee impose the maximum rate allowable under state law (as shown in Table 4). However, among the six cities in the state with a population greater than 100,000 residents, only Memphis⁷ and Murfreesboro currently impose the 2.75% rate, with Clarksville’s LOST rate currently set at 2.5%, while the remaining cities (Chattanooga, Knoxville, and Nashville) remain at 2.25%.

Table 4: Local Option Sales Tax (LOST) Rates in Tennessee — Count and Percentage

LOST Rate	Jurisdiction Count	Jurisdiction Percent
1.50%	1	0.3%
1.75%	2	0.5%
2.00%	8	2.1%
2.25%	91	23.9%
2.50%	25	6.6%
2.75%	253	66.6%

According to [Tennessee Department of Revenue](#), 33 municipalities in Tennessee currently have local option sales tax rates higher than their corresponding counties.⁸ Of note, all seven of the municipalities within Shelby County have a higher tax rate (2.75% versus 2.25%, respectively), while there is within-county variation in remaining 26 cities (representing 16 counties⁹). With only two exceptions (Loudon and Kingsport, both at 2.25%), the municipalities with differing tax rates are set at the highest allowable level (2.75%). Of the 17 counties with tax rates that differ from their corresponding municipalities, 12 are set at 2.25%, two are set at 2.5%, and three have a rate set at 2.0%. Finally, there is within-county variation in 15 counties, where at least one city has a different sales tax rate than the other municipalities. Of these 15 counties, 12 contain one municipality which has a tax rate that is different from the others within the county, while three counties contain cities where multiple cities have differing tax rates.

⁶There are 345 incorporated municipalities in Tennessee, with 30 cities and towns overlapping with more than one county. In these cases, some municipalities have different LOST rates in those respective counties.

⁷Memphis recently adopted the increased rate, which took effect in January 2020.

⁸These are shown in [Local Tax Rates: City vs. County Differences \(Table 17\)](#).

⁹Dunlap is the only incorporated municipality within Sequatchie County; thus, there is only a difference between the city and county tax rate, and not between other cities within the county.

Special Purpose Local Option Sales Taxes. The State of Georgia authorized local governments to impose special purpose local option sales taxes (SPLOSTs) via referendum in 1985. Originally designed for county infrastructure projects, municipalities meeting certain criteria and those which enter into intergovernmental agreements with their respective counties may also benefit from the imposition of these taxes. In 1996 Georgia also authorized ESPLOSTs directed towards capital outlays for school districts, and in 2015 authorized TSPLOSTs for regional transportation projects.

Recently, voters in Catoosa County, Georgia approved the reauthorization of the county’s SPLOST which coincided with the March 12, 2024 presidential primaries. By a roughly 20-point margin (60.7% for, 39.3% against) residents approved the extension of the 1% sales tax through fiscal year 2030. In total, the SPLOST is anticipated to bring in approximately \$96 million during the six-year period, of which roughly 80% would go to Catoosa County, 15% to the City of Fort Oglethorpe, and 5% to the City of Ringgold. Of Catoosa County’s allocation, this additional revenue would be used for projects such as: roads and bridges (31.6%); fire service (10.8%); sewer (8.8%); public buildings and grounds (8.3%); stormwater (7.4%); as well as other needs such as parks, public safety, IT, and other infrastructure needs.

Wheel Taxes & Vehicle Permit Fees.

In addition to local option sales taxes, [Chen and Bartle \(2022\)](#) also point to local option fuel tax (LOFT) and local option vehicle taxes (LOVT). Cities and counties in Tennessee are authorized to collect taxes and fees on vehicles registered to residents within their boundaries; however, the state collects fuel taxes which are then disbursed to local jurisdictions. Counties in Tennessee are authorized under state law (T.C.A. § 5-8-102) to adopt a wheel tax by a two-thirds vote of the local legislative body in two consecutive meetings; or, by a majority vote via referendum of the eligible voters in the county. However, if adopted by the county commission, rather than via referendum, and 10% of the registered voters within the county (during the last gubernatorial election) sign a petition within 30 days, the measure will be placed on the ballot (T.C.A. § 5-8-102(c)(2)(A)). Currently, the largest cities and counties in Tennessee have the following motor vehicle taxes and fees:

Table 5: Tennessee Motor Vehicle Privilege Taxes & Fees

Jurisdiction	County Tax	City Fee
<u>Hamilton County</u>	—	
Chattanooga		\$5
Davidson County	\$55	—
<u>Shelby County</u>	\$50	
City of Bartlett		\$25
City of Germantown		\$35
City of Memphis		\$30
City of Millington		\$30
City of Collierville		\$35
Knox County	\$36	—
Montgomery County	\$73	—
Rutherford County	\$50	—

According to a recent fiscal note on legislation proposing a biennial vehicle registration option (HB 345/SB 576) estimated that 59 of Tennessee’s 95 counties impose a wheel tax, with an average estimated rate of \$49. Although this bill passed the Tennessee Senate, it failed in the House Finance, Ways, and Means Committee. Regardless, this fiscal note is a good baseline for estimating the average motor vehicle privilege taxes imposed across the state. Currently, the City of Chattanooga, imposes a \$5 motor vehicle license fee on passenger vehicles registered within the city (Chattanooga City Code § 24-391, et seq.). Under city code, these funds are authorized for “the promotion of traffic safety and installation of signs, signals, markings and other safety devices and for regulating traffic on the streets of the city” (§ 24-398) in addition to the administration and enforcement of this provision. In FY 2022, the city brought in \$527,480 from the motor vehicle fee. Thus, for each \$5 incremental increase, the city could increase revenues by approximately \$500,000 for use towards traffic safety and other uses authorized in city code, or other related expenditures related to transportation needs in accordance with any subsequent ordinance updates in accordance with state law.

Local Option Transit Surcharges

In 2017, the Tennessee General Assembly adopted the *Improving Manufacturing, Public Roads and Opportunities for a Vibrant Economy* (IMPROVE) Act (Public Chapter No. 181) which authorizes local governments to implement a tax surcharge up to the authorized maximum for the current respective local tax rate (e.g. 2.75% for the local option sales and use tax), with a maximum limitation of \$200 on individuals. These surcharges can be levied similar to the following local privilege taxes: local option sales and use tax; business tax; motor vehicle tax; local rental car tax; tourist accommodation (hotel/motel) tax; and, residential development tax. The surcharge(s) must be approved by a voter referendum within the city or county, and two overlapping governments (i.e. a city and county) may not both implement a surcharge. A city may impose a surcharge without the respective county; however, if the county also approves the same surcharge via referendum, the city’s surcharge is voided (T.C.A. § 67-4-3202(f)).

Prior to the adoption by a local legislative body and referendum on the part of the voters, a local government must develop and adopt a transit improvement plan (TIP) which details “the public transit system projects and services to be funded and implemented under the program” (T.C.A. §67-4-3206). As outlined in T.C.A. § 67-4-3206(c), the TIP must include:

- *The type and rate of a surcharge that will provide funding to the program;*
- *When a surcharge will terminate or the date or conditions upon which the surcharge will be terminated or reduced;*
- *Any other sources of funding for the program;*
- *An estimate of the initial and recurring cost of the program;*
- *The implementing agencies responsible for carrying out the program; and*
- *The geographic location of the public transit system projects.*

Under state law, revenues from an established transit surcharge may be used for “costs associated with the planning, engineering, development, construction, implementation, administration, management, operation, and maintenance of public transit system projects that are part of a transit improvement program” (T.C.A. §67-4-3205(a)). This section also stipulates that surcharge revenues may be combined with other local, state, or federal funding sources (including taxes, fees, or fares), and may be used as matching funds for state or federal grants. Additionally, revenues may be used in conjunction with private funds (i.e. public-private partnerships), and also used to repay bonds; or, transferred to other “implementing

agencies to carry out a transit improvement program” (T.C.A. §67-4-3205(b)). Additionally, unlike some other LOST restrictions, there is no requirement that revenues be used for public education.

Nashville-Davidson County Mayor, Freddie O’Connell, recently unveiled a new proposal to improve public transit, including a 0.5% sales tax surcharge to help fund proposed improvements to bus service, including bus rapid transit corridors, express routes, and more frequent service in needed areas, as well as an estimated 86 additional miles of sidewalks (Stephenson, 2024b). A recent estimate published in *The Tennessean* calculated the potential monthly financial impact for average households in Nashville-Davidson County. All told, the proposal is estimated to cost a single adult an extra \$4 per month, including both groceries (\$2) and other household expenses (\$2), up to \$11 per month for a family of five with two adults and three children — \$7 on groceries and an additional \$4 on household expenses (Stephenson, 2024a). Although final estimates are still being developed, Nashville Mayor O’Connell noted that he expects Nashville’s surcharge to bring in billions of dollars over a 30-year period (Stephenson, 2024a). If pursued in Chattanooga and Hamilton County, estimated revenues would be lower based on population and other economic factors, as well as the type of goods and/or services that could be subject to a surcharge.

Central Business Improvement District Fees

Tennessee state law (T.C.A. § 7-88-117) allows for the imposition of additional fees on the sale of certain goods and services that are subject to state sales tax (with some exclusions) in central business districts that fall within a tourism development zone; however, this provision only applies to metropolitan governments (and, specifically, Nashville) at the moment. Currently, metropolitan governments may levy up to an additional 0.5% fee on goods and services, *excluding*: “professional services; lodging provided to transients; tickets to sporting events or other live ticketed events; alcoholic beverages which are subject to the liquor by the drink tax in addition to sales tax; newspapers and other publications; and, overnight and long term parking” (T.C.A. § 7-88-117(a)(1)(A–F)). Currently, half of the funds generated must go towards events and marketing within the district, with the other half dedicated to the safety and cleanliness of the district (T.C.A. § 7-88-117(b)(3)). Going forward, local governments could petition the General Assembly to allow for this provision to be applicable to all governments, not just metropolitan governments, which would allow the Chattanooga Convention Center Tourism Development Zone to implement an additional fee of up to 0.5% on the sale of certain goods and services for these uses, if so desired. This additional revenue could be used for the upkeep and maintenance of the downtown core and improvements of areas frequented by tourists while freeing up funds for other capital projects throughout the city.

New Fees & Special Assessments

Impact Fees. Although authorized in a number of cities and counties in Tennessee (including public and private acts, as well as specific forms of government and charter provisions), Chattanooga and Hamilton County are not currently able to impose impact fees on new development. However, changes to state law or a private act of the General Assembly could allow for this in the future.

Special Taxing & Assessment Districts Tennessee law currently authorizes counties to create road improvement districts for the construction, maintenance, and/or improvement of roads, bridges, culverts, and levees for the public welfare (T.C.A. § 54-12-101 et seq.). The process must be initiated by “a petition, signed by twenty-five percent (25%) of the landowners in the district who will be affected by or liable to be assessed for the expenses of the proposed improvement” (T.C.A. § 54-12-103) and authorizes the county commission to determine the amount of the special assessment necessary for requested improvements.

The costs of the assessment must be agreed to by 60% of affected property owners, based on acreage, and subsequent payments are secured by liens placed on property within that district. However, these improvement districts likely do not address needed road improvements on a broad scale, and would likely prove to be unpopular in all but a limited number of cases due to required support of landowners within the district and the provision that places a lien on affected properties. However, this mechanism remains in place for residents who may wish to have a new or expanded roadway in an area that is currently not a priority for the county.

Additionally, a proposal currently under consideration¹⁰ in the Tennessee General Assembly, referred to as the *Residential Infrastructure Development Act of 2024 (SB 2315/HB 2368)* would authorize the creation of infrastructure development districts. This bill would give municipalities “the authority and power to borrow money and issue bonds, notes, or other obligations for the purpose of paying infrastructure costs identified in the establishment resolution, reimbursing the developer for the prior payment of infrastructure costs, or refunding or refinancing such bonds, notes, or obligations” (7-84-716(a)). The bill would also allow for a special tax assessment within the district, which would then pay the bonds on behalf of the city, industrial development corporation, or the developer for infrastructure and improvements within that district.

Other Taxes. Finally, *Chen and Bartle (2022)* also point to revenue sources such as local option income (or payroll) taxes (LOITs); although, it should be noted that imposing a tax on income or payroll would be unconstitutional in Tennessee.

New Funding Mechanisms

Chen and Bartle (2022) include a number of options categorized as *new funding mechanisms*, including newer loan sources Transportation Infrastructure Finance and Innovation Act (TIFIA) Loans and the Water Infrastructure Finance and Innovation Act (WIFIA), which Chattanooga is already utilizing. Other funding mechanisms such as green bonds, catastrophe bonds, and environmental impact bonds fall under this category. Generally, these bonds are issued for projects that fall under environmental initiatives aimed at sustainability and resilience towards climate change and natural disasters.

Additionally, this category includes state infrastructure banks (SIBs), which were originally funded in the 1990s by the federal Department of Transportation. However, Tennessee never fully implemented this program, and although some recent legislation has been introduced to revive this source of funding for state and local projects, so far it has not materialized. Still, state infrastructure (or bond) banks remain a viable option in many states to provide local governments with financial resources such as loans and credit assistance which allow city and county governments to borrow at lower rates and incur lower costs of issuance (*Chen and Bartle, 2022; Srithongrung et al., 2021*). To date, states such as Florida, Ohio, Missouri, and Texas have provided millions of dollars in low-rate loans to their respective local governments for surface transportation, public transit, and rail projects since authorized in 1995 (USDOT). A 2016 International City/County Management Association survey found that only 12.6% of local government respondents noted that they were already using SIBs, with another 22.3% indicating that they were likely to use this tool if available (*Singla et al., 2021*). This alternative financing mechanism presents a significant opportunity to assist smaller local governments, those with limited financing capacity, and those with lower credit ratings with cost-effective solutions to closing their respective infrastructure gaps.

¹⁰As of March 14, 2024

Table 6: Innovative Funding Source Examples

New Funding Sources	
New Taxes	Local Option Taxes VMT Tax Electric Vehicle Taxes Carbon Taxes
New Fees	Value Capture Resilience Fees
New Financing Mechanisms	
New Credit Assistance Tools (Loans, Guarantees, Lines of Credit)	Water Infrastructure Finance and Innovation Act (WIFIA) Transportation Infrastructure Finance and Innovation Act (TIFIA) Environmental State Revolving Funds State Infrastructure Banks
New Bonds & Debt Financing Tools	Grant Anticipation Revenue Vehicle Bonds (GARVEEs) Green Bonds Catastrophe Bonds and Resilience Bonds Environmental Impact Bond
New Financial Arrangements	
Public–Private Partnerships	Design-Build Design-Build-Operate-Maintain Design-Build-Finance-Operate-Maintain Concession
Privatization	Lease/Asset Recycling
Infrastructure Investment Funds	Pension Funds Sovereign Wealth Funds Private Companies (Insurance and Investment Banks)
Private and Nonprofit Partners	Donations Grants Program Investment
Crowdfunding	Donation-Based (Public Goods)

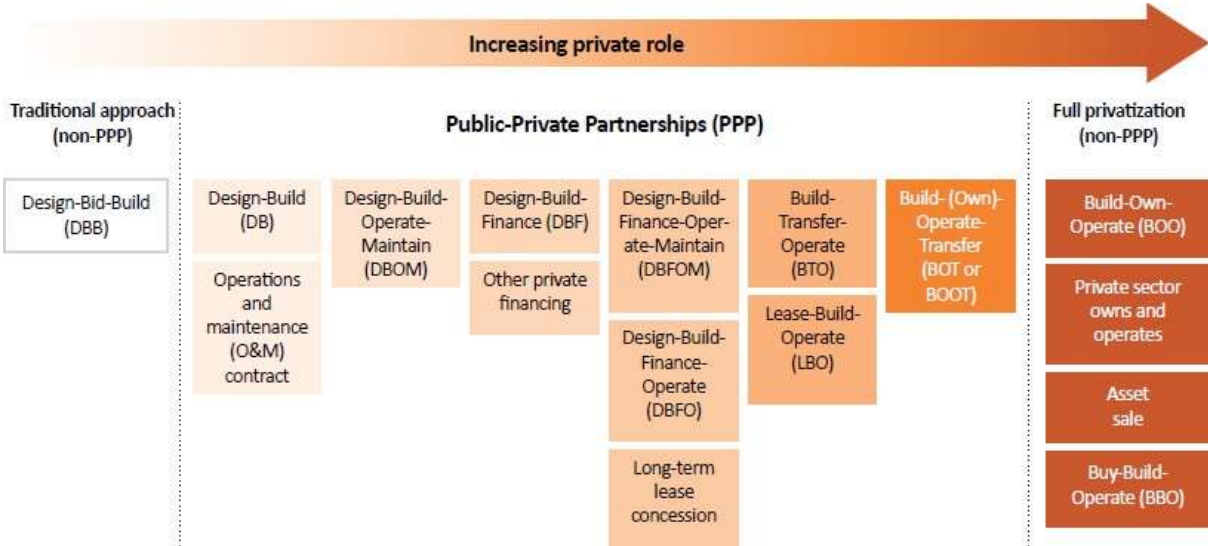
Source: Chen and Bartle (2022)

New Financial Arrangements

Public-Private Partnerships

One of the newer approaches to innovative infrastructure financing involves public-private partnerships (P3s), which are most familiar in the realm of transportation funding (particularly toll roads, tunnels, and bridges), but are becoming more utilized with other infrastructure projects such as water supply and wastewater treatment (Chen and Bartle, 2022). In Tennessee, current statutes allow for limited P3s at the state level, including more traditional design-build projects (T.C.A. § 54-1-119) and, most recently, the Transportation Modernization Act of 2023, which amended a number of provisions in Title 54 (relative to highways) and expands the scope of “choice lane” construction in the state (Public Acts of 2023, Chapter 159). Shown in Figure 1 (and listed in Table 6), P3s range from more traditional design-build projects, where both elements are contracted out in one stage to a private entity, to nearly full-on privatization arrangements, such as build–own–operate–transfer (BOOT), where a private entity owns the infrastructure until transferring it to a government entity at the end of a set term (National Conference of State Legislatures, 2017).

Figure 1: Project Delivery Models Along a Continuum of Private Sector Involvement



Source: National Conference of State Legislatures (2017)

A recent report by the Congressional Research Service (Mallett, 2021) provides a valuable overview of P3s for transportation funding. Quoting the U.S. Department of Transportation, Mallett (2021) notes that these partnerships “between a public agency and a private-sector entity...allow for greater private-sector participation in the delivery of transportation projects” (p. 1). Similar to Chen and Bartle (2022), the report describes a similar spectrum of private sector involvement in the process, including: design-build; design-build-finance; design-build-operate-maintain; design-build-finance-operate-maintain; and, long-term lease agreements. Mallett (2021) explains that the last two options (design-build-finance-operate-maintain, or DBFOM and long-term lease agreements) have recently generated considerable interest among private sector partners, referred to in these arrangements as the *concessionaire*, and include the financing, construction, operations, and maintenance of a *new* facility (DBFOM), or the “operation and maintenance of an *existing* facility” for a specified period, in the case of long-term lease agreements (Mallett,

2021, p. 2).

Additionally, the Federal Highway Administration's Office of Innovative Program Delivery prepared two "primers" on P3 delivery of projects, including an extensive overview of the risks associated with these arrangements ranging from the more basic design-build approach to more complex DBFOM projects. These risks are quantified and include a number of considerations throughout the design, build, and operational processes, ranging from political risks (e.g. ensuring public, legislative, and administrative support) to risks associated with financing and construction, to operational and maintenance risks such as assuring a return on investment for private partners and long-term costs associated with maintaining the condition of these projects (Federal Highway Administration, Office of Innovative Program Delivery, 2012, 2014).

Considerations Related to Funding Sources & Approaches

D'Angelo et al. (2019) provide a valuable overview of the key features related to value capture techniques, including various development fees, BIDs, TIFs, and other opportunities for financing infrastructure projects. Of note, the authors summarize the revenue potential (low, medium, or high), the timing of revenue received (immediate or delayed), the ease of implementation (simple, moderate, or difficult), and the perceived threshold of public acceptance (low, medium, or high). While these factors vary based on both the circumstances and the locale, D'Angelo et al. (2019) provide a baseline for considerations when weighing various financing approaches and determining which potential paths to pursue.

Table 7: Transportation and Infrastructure Funding Sources & Approaches

Technique	Expenditure or O&M	Funding or Financing	Revenue Potential	Timing of Revenue	Ease of Implementation	Public Acceptance
Impact Fees	Capital Expenditure	Funding	Medium	Immediate	Simple	High
Negotiated Exactions	Capital Expenditure	Funding	Medium	Immediate	Simple	High
Transportation Utility Fees	O&M	Funding	Low	Delayed	Moderate	Medium
Special Assessment Districts	Capital Expenditure	Both	Medium / High	Delayed	Moderate	Medium
"Business Improvement Districts"	Both	Funding	Low	Immediate	Moderate	High
Land Value Taxes	Both	Funding	High	Delayed	Difficult	Low / Medium
Sales Tax Districts	Capital Expenditure	Both	High	Delayed	Moderate	Medium
Tax Increment Financing	Capital Expenditure	Both	Medium / High	Delayed	Moderate	Medium
Joint Development	Capital Expenditure	Both	Medium	Immediate or delayed	Simple / Moderate	Medium
Naming Rights	Both	Funding	Low	Immediate	Simple	Medium / High

Source: D'Angelo et al. (2019)

Overview of City and County Findings

Nashville, TN

- Nashville utilizes “4% funds” for smaller capital expenditures, which are a special revenue fund allocated quarterly through omnibus resolutions for equipment and repairs that fall under the purview of the General Services District (GSD). Depending on the year, these funds are most often used for IT and maintenance functions, as well as vehicles/fleet and equipment.
- Overall, the vast majority of proposed capital spending is financed through bonds, with general obligation bonds representing 82.4% of requested projects, and revenue bonds representing another 10.3% over the five fiscal year period (FY 2018–2022). The government also relies heavily on bond anticipation notes (or “commercial paper”) to expedite ongoing projects.

Huntsville, AL

- Within the City of Huntsville, the sales tax rate is 9%, including the State of Alabama’s 4% portion, a ½% allocation for Madison County, and the remaining 4.5% which goes to the city. Of that 4.5%, 1.63% is dedicated to capital funding projects. The 1990 Capital Improvement Fund receives 0.63% and the 2014 Capital Improvement Fund receives the remaining 1%.
- 6.5 mills each of the total property tax rate are dedicated to school facilities and Public Building Authority (PBA) lease revenue bonds.
- Since 2000, Huntsville has created seven separate TIFs, representing over \$306 million in spending on projects including schools, transportation, and new building construction, with another \$126.7 million in approved spending on outstanding projects.

Charlotte, NC

- To the extent possible, Charlotte’s debt policy is to prioritize a pay-as-you-go approach before taking on any new debt. There is a built-in *Pay-as-You-Go Capital* (PAYGO) property tax rate that, as of FY 2022, represents 0.73¢ of the 34.81¢ per \$100 of assessed value (roughly 2.1% of the property tax rate); while 6.77¢ is dedicated to debt service for capital projects in FY 2022.
- In 2018, the sales tax rate in North Carolina is 7.25%, with 2.5% going to local governments. Of that 2.5%, 1% is split evenly with ½% dedicated to PAYGO funding, and the other ½% dedicated to debt service. Charlotte also has a Transit PAYGO fund, with revenues generated by a vehicle rental tax and motor vehicle license revenue, and a property tax allocation which dedicates 2.1% of the property tax rate within the city to the PAYGO program. Also included in the 2.5% local option is a 0.5% transit tax.
- The city has established 6 municipal services districts, which impose an additional ad valorem tax on properties within those districts (ranging from 1.3¢ to 4¢ per \$100 in valuation).
- The city utilizes *certificates of participation* as an alternate to more traditional bonds and allow the city to pledge an asset as collateral in exchange for the borrowed debt, but do not require voter approval.

Cobb County, GA

- No new bonds for governmental activities have been issued during fiscal years 2018–2022, although \$24.7 million and \$386.6 million were issued in 2017 and 2015, respectively.

- The county relies heavily on Special Purpose Local Option Sales Tax (SPLOST) funds, which have been used since the 1980s and generated approximately \$3 billion to date for various capital projects.
- A number of special districts and/or special revenue funds encompass Cobb County for various purposes, including the construction and maintenance of capital projects and assets - Cumberland Special Services District Fund I & II, the Six Flags Special Services District, as well as Street Light and Sidewalk districts.

Greenville, SC

- Similar to Charlotte, the City of Greenville has adopted a significant pay-as-you-go policy toward financing capital projects. In many years, a plurality of the capital projects are funded through the general fund or other funds, with bonds and other financing sources playing a smaller role in the capital budgeting process.
- The City of Greenville maintained three TIFs in recent years: the Downtown Infrastructure Fund, West End Tax Increment Fund, and Viola TIF. The Downtown Infrastructure Fund was established in 1986 and encompassed the central business district, but expired September 2021, after which the remaining funds were transferred to the general fund. Similarly, the West End TIF was established in 1991 and also ended in September 2021. The Viola TIF (also expired, as of 2016) was established via an intergovernmental agreement with the county and school system. Net revenues (gross revenues minus bond payments) from the Downtown and West End TIFs were divided as such: 53.3% to the school district and 19.11% to Greenville County. The remaining 27.09% of net revenues were used “to support the CBD Public Works crew, the Economic Development Project Account that funds public/private partnerships and other capital/planning initiatives” (FY 2021 Budget, p. H-1).

Nashville-Davidson County, TN

- Population (2022): 683,622

Major Revenue Sources

Nashville-Davidson County relies on the following sources of capital funding, nearly all of which are common to local governments, with the exception of the Four Percent (4%) Reserve Fund.

- General obligation bonds
- Revenue bonds
- Notes and commercial paper
- Federal and state grants
- 4% reserve funds
- Enterprise funds
- Operating (general fund) revenue
- Miscellaneous funds

Bonds. As of FY 2022, Nashville has an outstanding total of approximately \$2.2 billion in general obligation (G.O.) bonds for the GSD and USD combined, and \$1.28 billion in revenue bonds with the Department of Water and Sewerage Services. According to the FY 2022 ACFR, Nashville’s “total general obligation and revenue bonds outstanding increased by \$104 million (2.3%), during the current fiscal year. New bond issues totaled \$609.6 million, which were offset by principal payments of \$261.5 million and refundings of \$249.4 million. Deferred amounts decreased a net amount of \$15.5 million. The Department of Water and Sewerage Services entered into agreements with the State of Tennessee to borrow under the State’s Revolving Fund Loan Program. Other debt increased by \$5.5 million due to the borrowing of the State loans of \$9 million less principal payments of \$3.5 million on outstanding qualified school construction loans.” (MD&A, p. A-1)

Bond Anticipation Notes. In addition to G.O. and revenue bonds, Nashville also utilizes bond anticipation notes (“commercial paper,” or “CP”) with maturities between 1–270 days, and to a lesser extent notes that are issued for 3–5 years. “In July 2017, the Government instituted a new general obligation commercial paper program to provide interim or short-term financing for various authorized capital projects. In July 2018, the Government instituted a new Water and Sewer revenue bond commercial paper program to provide interim and short-term financing for various authorized capital projects of the Department of Water and Sewerage Services. Commercial paper obligations of \$494.4 million outstanding on June 30, 2022 are considered short term liabilities of the appropriate capital projects and proprietary funds. The commercial paper obligations will be redeemed with the proceeds from the future issuance of general obligation or revenue bonds” (FY 2022 ACFR, p. A-11).

Four Percent Reserve Funds. According to the Nashville-Davidson County Capital Improvements Budget (FY 2022), “4% funds” are a special revenue (reserve) fund allocated quarterly through omnibus resolutions for equipment and repairs that fall under the purview of the General Services District (GSD). Depending on the year, these funds are most often used for IT and maintenance functions, as well as vehicles/fleet and equipment. In terms of revenues, “[f]our percent (4%) of all original monies collected by the GSD General Fund (Fund 10101) are transferred to this fund. Administratively, the 4% is based on all

GSD General Fund gross receipts except for revenues from other governments and certain other internal sources and transfer accounts” (FY 2020 Operating Budget, p. J-30003-1). Although the Metro charter allows the government to establish the same fund for the Urban Services District (USD), the council has not yet pursued this option. In FY 2022, revenues to the 4% fund totaled approximately \$50.4 million. A sample of Metro code is provided in the appendices (*Nashville Metro General Reserve (Four Percent) Fund Policy*) which outlines the policies regarding the 4% fund.

Capital Improvement Plans, Budget & Spending

A summary of the Capital Improvement Plan requests and funding sources are presented in Table 9, summarized by department group. The CIP funding sources include all requests made by fiscal year and proposed funding sources, but does not delineate between projects funded by fiscal year (only requests). Projects actually funded via annual budgets are presented in the subsequent section, but do not include funding sources. Overall, the vast majority of proposed capital spending is financed through bonds, with general obligation bonds representing 82.4% of requested projects, and revenue bonds representing another 10.3% over the five fiscal year period (FY 2018–2022). Federal funds (2.8%), miscellaneous funds (2.0%), 4% funds (1.8%), state funds (0.4%), enterprise funds (0.4%), and funds from the operating budget (0.001%) represent the remaining 7.3% of requested funding for capital projects from the FY 2018–2022 CIPs.

CIP Department Groups

For the purposes of the CIP, Nashville-Davidson County groups departments together by the following broad categories: Enterprises (including Water & Sewer); Facilities & Technology; Public Works; Safety; Schools; and, Transit, Development & Culture. For the purposes of this project, Schools and Enterprises, with the exception of Water & Sewer were excluded. Of the remaining groups, the associated departments are listed below.

- Facilities & Technology
 - Includes: Constitutional offices (Assessor, Clerk, etc.); Finance; General Hospital; General Services; Health; Information Technology; and Social Services (among others).
- Public Works
 - Standalone, but includes all major transportation costs (roads, sidewalks, bikeways, etc.) as well as solid waste facilities, equipment, and maintenance.
- Safety
 - Includes: Fire; Police; Courts (including Juvenile Court); and, Emergency Management.
- Transit, Development & Culture
 - Includes: Arts Commission; Historical Commission; Library; Metropolitan Development and Housing Agency (MDHA); Metro Transit Authority (MTA); Parks; and Planning Commission projects.
- Water & Sewer
 - Standalone, but partially funded by enterprise funds.

Table 8: Capital Improvements Budget (CIB) Requests & Funding Sources, FY 2018–2022

Department Group	Fiscal Year				
	2018	2019	2020	2021	2022
<u>Facilities & Technology</u>					
Approved G.O. Bonds	3,300,000				400,000
Miscellaneous Funds	30,570,000	30,577,000	30,213,000	35,000,000	25,000,000
Operating Budget Funds		100,000			
Proposed 4% Funds	33,037,500	16,225,100	21,203,120	64,392,000	58,523,900
Proposed G.O. Bonds	243,214,622	846,128,622	1,200,216,220	1,718,633,681	1,791,342,332
Proposed Revenue Bonds	150,000,000		40,000	40,000	540,000
State Funds		2,000,000			
<u>Public Works</u>					
Approved G.O. Bonds	35,500,000				
Federal Funds	124,981,200	57,222,200	7,250,000	12,250,000	5,000,000
Miscellaneous Funds	13,000,000	17,000,000			
Proposed G.O. Bonds	718,669,900	269,042,200	173,311,516	211,403,300	320,675,000
State Funds	15,950,000	8,650,000	8,400,000	13,400,000	5,000,000
<u>Safety</u>					
Approved G.O. Bonds					22,151,000
Proposed 4% Funds					3,125,000
Proposed G.O. Bonds	136,136,900	94,294,500	161,320,000	102,202,300	200,822,000
<u>Transit, Development & Culture</u>					
4% Funds	4,450,000				
Approved G.O. Bonds	967,000	1,490,000	1,165,000		1,547,500
Federal Funds	6,850,000	10,600,000	5,050,000		126,525,000
Misc Funds	10,000,000				
Miscellaneous Funds		4,900,000	17,000,000	21,000,000	21,000,000
Proposed 4% Funds		4,450,000	5,777,000	9,035,600	7,386,100
Proposed G.O. Bonds	376,941,000	283,976,000	353,384,000	349,934,800	859,322,955
<u>Water & Sewer</u>					
Enterprise Funds	4,350,000	6,100,000	6,400,000	8,715,000	19,700,000
Proposed G.O. Bonds	18,500,000	21,200,000	16,570,000	22,250,000	19,050,000
Proposed Revenue Bonds	256,425,000	93,582,000	48,339,250	449,780,000	329,012,250
Total	2,182,843,122	1,767,537,622	2,055,639,106	3,018,036,681	3,816,123,037

Capital Spending Plans

Each year, as part of the annual budgeting process, the mayor proposes a Capital Spending Plan that is considered and approved by the Metro Council. Although these are broken down by department, they do not include the direct funding source in aggregate form (only by individual project). As such, the total amounts included below are grouped by department group (similar to Table 9) to provide a rough comparison of the projects and their funding sources.

Table 9: Capital Improvements Budget (CIB) Requests, FY 2018–2022

Department Group	Fiscal Year				
	2018	2019	2020	2021	2022
Facilities & Technology	26,000,000	82,700,000	47,408,000	36,750,000	43,786,000
Public Works	80,000,000	107,000,000	13,950,000	103,372,000	108,994,500
Safety	15,000,000	–	14,870,000	52,700,000	67,750,000
Transit, Development & Culture	78,000,000	70,200,000	12,300,000	54,050,000	152,845,000
Water & Sewer	–	20,000,000	–	19,830,000	15,550,000
Total	199,000,000	279,900,000	88,528,000	266,702,000	388,925,500

Impacts on the Operating Budget

Nashville’s capital projects impact the operating budget in the following ways:

- The 4% Reserve Funds are drawn from the General Services District’s General Fund, which has a direct impact on the amount of expenditures the government is able to appropriate in a given year.
- The repayment of general obligation bonds (both principal and interest) is an annual expenditure in the operating budget, and is accounted for in determining the government’s debt capacity while developing the annual capital spending plan.
- Ongoing operating costs (staffing, utilities, maintenance, etc.) are considered in the capital improvement process since these items will have an impact on the annual operating budget.

Business Improvement Districts

Nashville has two business improvement districts (BIDs), the Central Business Improvement District (CBID), encompassing most of the downtown core, and the Gulch Central Business Improvement District (GCBID), encompassing the Gulch area — just southwest of the downtown core. As of FY 2022, the CBID generated revenues were \$3,672,200 and the GCBID were \$583,900. The CBID imposes a rate of \$0.1294 and the GCBID \$0.1081 per \$100 of assessed valuation within the district overlay, in addition to the fees generated by applicable sales and services. As of July 2021, the fees in the CBID increased from 0.25% to 0.5%.

Huntsville, AL

- Huntsville Population (2022): 221,933
- Madison County Population (2022): 403,565

Funding & Revenue Sources

In addition to the general fund, Huntsville delineates funding to the following funds: Grants Fund (federal, state, and local grant revenues and related expenditures); Capital Improvements Fund (sales and use tax, intergovernmental, and internal funds); Public Building Authority (PBA) City Hall Fund (bond proceeds for the construction of city hall); and, Debt Service Fund (long-term debt not financed by proprietary funds, property taxes restricted for debt service, sales taxes transferred from the General Fund and Capital Improvements Fund).

The Capital Improvement Fund “accounts for the cost of constructing a variety of public works projects and related debt service, and the cost of various city departments’ capital spending and maintenance activities. Financing is provided by general obligation debt, a transfer from the General Fund of approximately 18% of annual sales taxes, and interest revenue” (FY2018 ACFR, p. 22). Additionally, the “2014 Capital Improvement Fund of the City accounts for the cost of constructing various road projects and related debt service, and the cost of economic development projects. Financing is provided by a one-cent sales and use tax and limited general obligation debt” (FY2018 ACFR, p. 22). In FY 2022 alone, the two combined funds brought in over \$101 million from tax revenues (\$60.5 in the 2014 fund, and \$41.1 in the 1990 fund) in addition to intergovernmental revenues, earned interest, and other sources. At the end of FY 2022, the fund balance was a combined \$145.6 million.

Sales Taxes. Within the City of Huntsville, the sales tax rate is 9%, including the State of Alabama’s 4% portion, a ½% allocation for Madison County, and the remaining 4.5% which goes to the city. Of that 4.5%, 1.63% is dedicated to capital funding projects. The 1990 Capital Improvement Fund receives 0.63% and the 2014 Capital Improvement Fund receives the remaining 1%.

Special Revenue Funds. 6.5 mills each of the total property tax rate are dedicated to school facilities and Public Building Authority (PBA) lease revenue bonds. The capital debt (PBA) fund brought in approximately \$22.5 million in FY 2022, and the school fund brought in \$23.6 million in revenues. Additionally, the city collected roughly \$22.5 million in lodging (hotel/motel) taxes (charged at a 9% rate, plus a \$2 room per night surcharge as of 2017) and \$5.3 million from the city’s portion of state fuel taxes in FY 2022.

Bonds. As of the close of FY 2022, the City of Huntsville had \$613.5 million in outstanding general obligation bonds (or *warrants*), \$151.87 million in lease revenue bonds, and \$109 million in revenue warrants. In 2017, the Public Building Authority (PBA) issued lease revenue bonds totaling \$46.965 million to refund outstanding 2007 revenue bonds used to construct a new public safety, jail, and court facility. Since then, the PBA has issued \$37 million for a city amphitheater and \$74.285 million for a new city hall facility.

Tax Increment Financing Districts. Since 2000, Huntsville has created seven separate TIFs, representing over \$306 million in spending on projects including schools, transportation, and new building construction, with another \$126.7 million in approved spending on outstanding projects. The most recent TIF (TIF 7) includes two major road construction projects (\$39.9 million, to date) and nearly \$70 million spent to

date on the *New World* industrial site improvements which will house a new auto manufacturing plant. Two other TIFs (TIF 1 and TIF 3), both begun in 2000 and expired as of 2006 (three years ahead of schedule) and 2012 (eleven years ahead of schedule). Both TIFs focused on the growing western portion of the city, with TIF 1 (\$2.3 million) focusing on schools and road improvements and TIF 3 (\$39.5 million) focusing on the development of an industrial park and schools within the district.

Capital Improvement Plans

Currently only the FY 2019 and FY 2022 Capital Improvement Plans are available, revenue and expenditures for which are summarized below.

FY 2022 CIP. The largest capital project in the FY 2022 CIP is a new municipal (city hall) complex¹¹, totaling \$85 million; it also includes a \$14 million public safety training facility and a \$4.5 million fire station, all funded through debt. Aside from those projects, there is significant investment in the John Hunt Park¹², branded as Huntsville’s “Central Park.” In FY 2022, the CIP included \$13.3 million in projects (all funded by debt) for soccer fields, playgrounds, and restroom facilities. The plan also budgets for \$14 million in ARPA funding designated towards park construction and renovation (including the renovation of a community center) and stormwater projects. The remaining funds, derived from sales tax (1.63%), gas tax allocations, and a small general fund transfer. These funds are budgeted to cover street maintenance and resurfacing, sidewalk construction and maintenance, fleet purchases, and other buildings and parks projects.

Table 10: Huntsville 1990 Capital Improvement Plan Revenues, FY 2022

Funding Source	Funding Total	Funding Percent of Total
Debt	\$122,600,000	71.5%
Sales Tax	\$32,365,000	18.9%
ARPA	\$14,000,000	8.2%
Gas Tax	\$2,459,453	1.4%
General Fund Transfer	\$85,000	0.05%
Total	\$171,509,453	100%

The 2014 Capital Improvement Plan for FY 2022 is funded solely from the 1% sales tax revenue, with no debt planned for that fiscal year. The expenditure categories included in the budget are as follows.

Table 11: Huntsville 2014 Capital Improvement Plan Expenditures, FY 2022

Project Group	Total Expenditures	Percent of Total Expenditures
Street Construction & Projects	\$26,250,000	57.9%
Redevelopment Efforts	\$9,150,000	20.2%
Economic Development	\$8,500,000	18.8%
Multi-Modal/Transit Services	\$750,000	1.7%
Drainage	\$650,000	1.4%
Total	\$45,300,000	100%

¹¹Smith (2021) *Moving into the future: A look at Huntsville’s new City Hall*

¹²City of Huntsville: *John Hunt Park*

Charlotte, NC

- Charlotte Population (2022): 897,720
- Mecklenburg County Population (2022): 1,145,392

Debt Policy

To the extent possible, Charlotte’s debt policy is to prioritize a pay-as-you-go approach before taking on any new debt. The city also strives to maintain a “per capita debt ratio within the moderate range as defined by rating agency criteria as published periodically sufficient to maintain current credit ratings” (FY 2028 Budget, p. 11). There is a built-in *Pay-as-You-Go Capital* (PAYGO) property tax rate that, as of FY 2022, represents 0.73¢ of the 34.81¢ per \$100 of assessed value (roughly 2.1% of the property tax rate); while 6.77¢ is dedicated to debt service for capital projects in FY 2022.

Sales Taxes & PAYGO Funding. In 2018, the sales tax rate in North Carolina was 7.25%, with 2.5% going to local governments. Of that 2.5%, 1% is split evenly with ½% dedicated to PAYGO funding, and the other ½% dedicated to debt service. Charlotte also has a Transit PAYGO fund, with revenues generated by a vehicle rental tax and motor vehicle license revenue, and a property tax allocation which dedicates 2.1% of the property tax rate within the city to the PAYGO program. Also included in the 2.5% local option is a 0.5% transit tax.

Special Revenue Funds

The city operates a number of special revenue funds, including the Convention Center Tax Fund, State Street Aid Fund, Neighborhood Development Fund, and others that allocate restricted funds for specific purposes. Notably, the City of Charlotte has several municipal services districts, described below.

Municipal Services District. As of 2023, Charlotte’s municipal services districts are taxed at an additional rate per \$100 valuation shown below. Each of the districts is established as a 501(c)4 as provided under North Carolina state law.¹³

- District 1: Center City – 1.36¢
- District 2: Center City – 2.27¢
- District 3: Center City – 3.38¢
- District 4: South End – 3.90¢
- District 5: University City – 2.79¢
- District 6: SouthPark – 4.00¢

Bonds & Certificates of Participation

Charlotte has pursued two primary options for financing capital projects in recent years — more traditional general obligation bonds and *certificates of participation*. Unlike general obligation bonds, which must be approved by voters, certificates of participation are forms of debt that allow the city to pledge an asset as collateral in exchange for the borrowed debt and do not require voter approval. Charlotte

¹³N.C.G.S. § 160A-535 et seq. – *The Municipal Service District Act of 1973.*

City Council’s approved allocations of general obligation bond revenues are outlined in the next subsection, grouped by project/expenditure categories as outlined in their Community Investment Plan (CIP). Typically, the city issues bonds every two years to cover the approved projects included in the CIP.

Community Investment Plan

Charlotte prepares a 5-year CIP with each annual budget outlining projects to be funded with general obligation bonds and certificates of participation, which is presented biennially (as even years) and amended in odd years. These expenditures are broadly represented in the Capital Projects Fund shown below.

Capital Projects Fund

Table 12: Charlotte Capital Projects Fund Expenditures, FY 2018–2022 (in thousands)

Project Category	Fiscal Year				
	2018	2019	2020	2021	2022
Affordable housing	12,440	15,987	5,726	9,292	20,398
Area plans	320	284	1,057	1,085	953
Business corridors	981	1,009	1,062	1,170	3,464
Capital equipment	29,026	29,404	27,640	28,969	20,930
Capital facilities maintenance	7,674	5,737	6,597	6,992	5,727
Economic development corridors	3,416	5,625	6,489	5,970	4,753
Environmental services program	1,316	1,758	2,406	1,475	1,235
Facility renovations	24,854	26,010	64,369	73,489	25,496
Housing	285	160	252	183	139
Innovative housing	3,173	2,689	4,063	9,844	3,785
Land acquisition	–	–	–	–	401
Neighborhood improvements	10,215	9,214	14,750	17,135	15,817
New facilities	7,984	23,468	53,181	39,613	7,315
Non-street transportation infrastructure	6,801	9,753	12,125	17,839	21,525
Other equipment	64	730	2,816	2,261	6,245
Pedestrian safety	12,102	13,903	13,739	13,031	13,102
Street and road infrastructure	19,960	25,005	23,095	43,673	33,279
Technology	8,756	5,156	5,911	6,350	4,616
Traffic control	6,452	6,260	6,768	6,648	5,475
Transit corridor development	14,356	45,519	56,695	23,033	18,752
Transportation partnerships	1,273	1,975	226	197	477
Tree program	3,761	4,843	4,329	2,958	3,046
Total	175,209	234,489	313,296	311,207	216,930

Impacts on Operating Budget

The CIP includes a breakdown of the impact the plan will have on operating costs (usually personnel, maintenance, and/or minimal cost overruns).

Cobb County, GA

- Marietta Population (2021): 60,962
- Cobb County Population (2022): 771,952

Capital Funds & Funding

No new bonds for governmental activities have been issued during fiscal years 2018–2022, although \$24.7 million and \$386.6 million were issued in 2017 and 2015, respectively. The 2017 general obligation bond was issued to acquire park land, and had an outstanding balance of \$4.65 million as of the close of FY 2022. In 2015 a revenue bond totaling \$386.6 million was issued to finance the construction of the new Braves stadium (formerly SunTrust, now Truist Park). Other outstanding revenue bonds total \$59.165 million as of the close of FY 2022, and have been used in the past to finance the construction of the convention center, acquisition of land, performing arts center, parking garages, refunds on earlier bonds, and other capital activities.

Stadium Capital Maintenance Trust Fund. The Stadium Capital Maintenance Trust Fund was created to cover maintenance and repairs of the Braves stadium, up to a maximum of \$35 million over the 30- year lease. To date, the fund has not incurred any expenditures, but made a transfer in the amount of \$1,239,234 for the first time in FY 2022. The fund has a balance of \$14,413,149 at the close of FY 2022.

Capital Projects Fund. The Capital Projects Fund is generally funded through transfers from the operating budget, with projects identified through the biennial budget capital improvement program (CIP) and capital replacement schedule (CRS) process. The CIP includes new items or projects identified for each biennial budget cycle, and the CRS includes the replacement or maintenance of existing capital items. Capital projects funds in recent years have included: Public Facilities, SPLOST, SCRA Construction, and Stadium Construction.

Special Purpose Local Option Sales Tax (SPLOST) Funds. Cobb County voters approved separate SPLOST referenda in 2005, 2011, 2016, and 2020, respectively. The following information is taken from the FY 2021–2022 biennial budget (pp. 379–381) and FY 2022 ACFR.

- 2005 SPLOST: January 1, 2006–December 31, 2011, \$860 million
 - To date, has funded four major capital project categories: transportation (\$660 million), public safety radio communications (\$27 million), Sheriff's jail expansion (\$110 million), and a new judicial facility (\$63 million). The program currently has \$20.8 million unencumbered and \$5.3 million encumbered but not yet spent.
- 2011 SPLOST: January 1, 2012–December 31, 2015, \$615.3 million (as of FY 2022)
 - To date, has funded: transportation (\$250.9 million), public safety equipment (\$12.9 million), various county facility renovations and improvements (\$16.7 million) and Parks and Recreation facilities renovations and improvements (\$82 million). The remaining funding is allocated to Municipal Improvements (\$129.5 million).
- 2016 SPLOST: January 1, 2016–December 31, 2021, \$1.11 billion (as of FY 2022)
 - Approved to fund five major county capital project categories: transportation (\$287.3 million), public safety (\$88 million), public services such as Parks, Libraries, and Senior Services (\$102.9 million) and Support Services such as Public Facilities and Information Technology

(\$48 million) and countywide projects (\$38.9 million). The remaining funding is allocated to Municipal Improvements (\$184.9 million).

- 2020 SPLOST: January 1, 2022–December 31, 2027, \$164.9 million collected as of FY 2022
 - Approved to fund five major county capital project categories: \$329.9 million for Transportation Projects; \$27.9 million for Parks, Libraries and Community Centers; \$27.2 million for Support Services Projects; \$32 million for Community Impact Projects; \$82 million for Public Safety Projects; \$4 million for the Sheriff’s Office and \$46 million for Countywide Projects. Additionally, \$201 million has been allocated for Cities and Joint Projects with the Cities.

Transportation Improvement Plan (TIP) Funds. Three rounds of funding for Cobb County’s TIP were provided by Special Purpose Local Option Sales Tax (SPLOST) revenues, totaling more than \$1 billion over a 20-year period. SPLOST imposes an additional 1% sales tax on top of the state’s 4%, and must be approved by a voter referendum. Each SPLOST for transportation projects were authorized for 48 months during the following periods, along with the associated revenues:

- 1985 SPLOST: July 1, 1985–June 30, 1989, \$278 million
- 1990 SPLOST: April 1, 1991–March 31, 1995, \$322 million
- 1994 SPLOST: April 1, 1995–March 31, 1999, \$480.5 million

Parking Deck Fund. Several other funds operate for specific purposes, including the Parking Deck Fund. The Parking Deck Fund services debt on two county-owned parking garages, with revenues coming largely from charges for services (i.e. parking fees) and occasional transfers from the general fund.

Limit on Tax Allocation Districts. The State of Georgia has placed limits on tax allocation districts (TADs)... “No political subdivision may create a tax allocation district when the total current taxable value of property subject to ad valorem property taxes within the proposed district plus the total current taxable value of property subject to ad valorem property taxes within all its existing tax allocation districts exceeds 10 percent of the total current taxable value of all taxable property located within the area of operation of the political subdivision.” OCGA § 36-44-17

Impacts on Operating Budget

Cobb County develops estimates for the impact capital projects have on the operating budget, which are outlined under each subsection within the capital improvement plan.

Special Districts & Revenue Funds.

A number of special districts and/or special revenue funds encompass Cobb County for various purposes, including the construction and maintenance of capital projects and assets.

- Cumberland Special Services District Fund I (CSSD I)
- Cumberland Special Services District Fund II (CSSD II)
- Six Flags Special Services District (SFSSD)
- Cumberland Community Improvement District (CID)
- Street Light & Sidewalk Districts

Table 13: Special Revenue Funds Revenues, FY 2018–2022

Fund	Fiscal Year				
	2018	2019	2020	2021	2022
Parking Deck	883,894	619,728	631,547	822,113	697,495
Street Light	3,176,456	6,164,125	6,181,503	4,086,934	5,952,604
Six Flags	1,215,170	1,107,596	1,003,183	958,870	925,261
CSSD 1	3,564,325	2,885,121	2,584,929	3,757,878	3,740,545
CSSD 2	7,135,628	8,362,323	7,461,299	6,810,521	6,569,290
Stadium Capital Maintenance	1,447,011	1,325,593	1,363,961	1,385,397	1,276,333

Table 14: Special Revenue Funds Expenditures, FY 2018–2022

Fund	Fiscal Year				
	2018	2019	2020	2021	2022
Parking Deck	1,174,957	1,125,800	1,178,625	1,023,507	1,014,401
Street Light	5,492,427	5,451,952	5,247,553	5,110,361	5,038,949
Six Flags	–	–	–	–	–
CSSD 1	1,547,644	900,000	1,527,827	619,277	–
CSSD 2	–	–	–	–	–
Stadium Capital Maintenance	–	–	–	–	–

Greenville, SC

- Greenville Population (2022): 72,310
- Greenville County Population (2022): 547,950

Similar to Charlotte, the City of Greenville has adopted a significant pay-as-you-go policy toward financing capital projects. In many years, a plurality of the capital projects are funded through the general fund or other funds, with bonds and other financing sources playing a smaller role in the capital budgeting process compared to other cities (depending on the fiscal year). The city's outstanding debt at the end of FY 2022 was \$144.3 million, a 30% increase from the previous year. A large portion (\$51.9 million, or 44%) of the city's debt falls under the City of Greenville Public Facilities Corporation, a component unit of the city which has recently issued a number of revenue bonds for projects such as a downtown parking garage, as well as other revenue bonds (\$20.7 million, or 17%) for business-type activities such as sewer and stormwater. The city itself has relatively low debt in the form of general obligation bonds dedicated to governmental activities, with only \$2.7 million (2.3% of the total debt) outstanding at the end of FY 2022.

Capital Budget Revenues

Table 15: Greenville Capital Budget Expenditures, FY 2018–2022

Revenue Source	Fiscal Year				
	2018	2019	2020	2021	2022
Capital Projects Fund	80,000	132,000	700,000	680,000	1,500,000
Enterprise Funds/Bonds	4,250,000	7,588,190	9,375,000	5,025,000	4,185,000
General Fund	7,508,254	5,000,742	8,957,298	8,332,905	12,573,640
General Obligation Bond	-	-	-	-	32,000,000
Parking Fund	-	-	3,950,000	250,000	1,250,000
TIFs	2,039,399	2,705,472	3,747,887	4,162,164	-
Tourism Fund	5,220,000	7,625,000	5,645,000	775,000	4,175,000
Total	19,097,653	23,051,404	32,375,185	19,225,069	55,683,640

Capital Budget Expenditures

Debt by Fund

Legal Debt Limit. Title 5, Chapter 21, Article 1 of the Code of Laws of the State of South Carolina states that “the constitutional debt limit of a municipality may not exceed 8 percent of the locality’s assessed valuation. Debt in excess of the limit must be authorized by a majority of qualified electors;” however, this limit only applied to general obligation debt, and is not applicable to revenue bonds, TIFs, leases, or other forms of indebtedness (FY 2022 Budget, p. 278).

Tax Increment Funds

The City of Greenville maintained three TIFs in recent years: the Downtown Infrastructure Fund, West End Tax Increment Fund, and Viola TIF. The Downtown Infrastructure Fund was established in 1986 and

Table 16: Greenville Capital Budget Expenditures, FY 2018–2022

Project Category	Fiscal Year				
	2018	2019	2020	2021	2022
Economic Development	4,554,248	6,235,196	6,276,634	4,197,867	4,518,994
General Government	5,000	-	1,535,000	2,000,000	5,000,000
Infrastructure	7,350,000	10,250,190	16,975,000	8,025,000	34,135,000
Parks and Recreation	5,675,764	5,497,675	3,696,078	3,140,898	10,278,078
Public Safety	1,017,641	1,068,343	3,892,473	1,861,304	1,751,568
Total	18,602,653	23,051,404	32,375,185	19,225,069	55,683,640

encompassed the central business district, but expired September 2021, after which the remaining funds were transferred to the general fund. Similarly, the West End TIF was established in 1991 and also ended in September 2021. The Viola TIF (also expired, as of 2016) was established via an intergovernmental agreement with the county and school system. Net revenues (gross revenues minus bond payments) from the Downtown and West End TIFs were divided as such: 53.3% to the school district and 19.11% to Greenville County. The remaining 27.09% of net revenues were used “to support the CBD Public Works crew, the Economic Development Project Account that funds public/private partnerships and other capital/planning initiatives” (FY 2021 Budget, p. H-1).

Relationship to Operating Budget

According to the City of Greenville, the Capital Improvement Plan impacts the operating budget in the following areas:

- Pay-as-you-go financing reflected in the Operating Budget, which impacts fund balance or available funds for operating needs;
- Debt service payments on any bond instrument that may be issued to finance capital improvements; and
- Staffing and other operating expenses that may be required once a capital improvement is completed.

Performance Measures & Fiscal Health

The majority of local governments that rely on measures of fiscal health or performance measures related to budget and finance functions often focus on relatively simple measures such as debt ratios (per capita, or relative to the assessed value of the jurisdiction); or, utilize comparative measures of fiscal health such as the 10-point test developed by Brown et al. (1993), which, in addition to per capita debt, assesses factors such as long-term liabilities and debt service as a percentage of total revenues. However, Marlowe et al. (2009) note that “performance measurement and management of capital budgeting is an underdeveloped function relative to local government services” due to the fact that many “key objectives are not defined, and many of the main output and outcome measures are underspecified and/or not routinely collected” (p. 245). Further, “it is difficult to measure the true outcomes that capital planning and budgeting seek to advance, such as promoting economic development and enhancing citizen quality of life” (Marlowe et al., 2009, p. 245). As such, many of the measures used by state entities often relate to factors such as project management (e.g. capital projects completed on time, and/or under budget), or safety and reliability (e.g. traffic fatalities or outages for a utility system).

The Tennessee Comptroller of the Treasury (2023) outlines several measures of fiscal health, two of which could pertain to capital financing in the short-and long-term, respectively. First, the Comptroller’s Office calculates *current liabilities as a percent of cash*, which could be impacted by factors such as bond anticipation notes or other short-term liabilities payable within a fiscal year. Current liabilities exceeding 75% of cash is deemed a “distress concern,” while liabilities between 25–75% are a matter of “slight concern,” and those less than 25% are classified as “no concern.” Additionally, the Comptroller calculates *debt as a percentage of assessed value*, classifying anything below 8% as “no concern,” between 8–10% as “slight concern,” and any percentage over 10% as a “distress concern.”

As of the end of fiscal year 2022, Hamilton County had just under \$439 million in outstanding debt (including both principal and interest). With an estimated total taxable assessed value of \$13.64 billion for Hamilton County, the debt ratio of 3.2% falls well within the Comptroller’s classification of “no concern.” Similarly, the City of Chattanooga had approximately \$393.4 million in gross indebtedness at the end of fiscal year 2022. With an estimated taxable assessed value of \$7.7 billion within the city limits, a ratio of 5.1% also falls within the category of “no concern.” Chattanooga’s FY 2022 ACFR notes that the charter restricts the city to a debt ratio of 10 percent of the assessed value of property, and also calculates the ratio of “self-supporting debt,” which totals only \$116.4 million (compared to the \$393.4 million in gross indebtedness), which represented only 1.5% of the city’s assessed value of property (City of Chattanooga, 2022 ACFR, p. xix).

Case Study Examples of Value Capture Techniques

A number of resources provide case studies which offer insight into the ways city and county governments are utilizing these innovative funding and financing mechanisms for capital projects. Of note, Chen and Bartle (2017) (link, via ICMA) and Chen and Bartle (2022) (included in the appendix) provide a number of examples where local governments around the country are now optimizing these strategies for necessary infrastructure improvements and upgrades. Additionally, the Federal Highway Administration, Center for Innovative Finance Support provides over 50 case studies and resources geared towards surface transportation funding and value capture techniques.

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Local Sales Tax Rates: City vs. County Differences

Table 17: Local Option Sales Taxes: Differing City vs. County Rates

City	County	Sales Tax Rate:	
		City	County
Rocky Top	Campbell	2.75%	2.25%
Ashland City	Cheatham	2.75%	2.25%
Kingston Springs	Cheatham	2.75%	2.25%
Pegram	Cheatham	2.75%	2.25%
Oakland	Fayette	2.75%	2.25%
Rossville	Fayette	2.75%	2.25%
Piperton	Fayette	2.75%	2.25%
Pulaski	Giles	2.75%	2.5%
Loudon	Loudon	2.5%	2.0%
Adamsville	McNairy	2.75%	2.25%
Sweetwater	Monroe	2.75%	2.25%
Wartburg	Morgan	2.75%	2.0%
Oliver Springs	Morgan	2.75%	2.0%
Sunbright	Morgan	2.75%	2.0%
Oak Ridge	Roane	2.75%	2.5%
Oliver Springs	Roane	2.75%	2.5%
Dunlap	Sequatchie	2.75%	2.25%
Memphis	Shelby	2.75%	2.25%
Arlington	Shelby	2.75%	2.25%
Bartlett	Shelby	2.75%	2.25%
Collierville	Shelby	2.75%	2.25%
Germantown	Shelby	2.75%	2.25%
Millington	Shelby	2.75%	2.25%
Lakeland	Shelby	2.75%	2.25%
Carthage	Smith	2.75%	2.0%
Gordonsville	Smith	2.75%	2.0%
Dover	Stewart	2.75%	2.25%
Kingsport	Sullivan	2.5%	2.25%
White House	Sumner	2.75%	2.25%
Covington	Tipton	2.75%	2.25%
Atoka	Tipton	2.75%	2.25%
Munford	Tipton	2.75%	2.25%
Sparta	White	2.75%	2.25%

Nashville Metro General Reserve (Four Percent) Fund Policy

5.04.015 - Appropriations from general fund reserve fund (four percent fund). ([Link, via MuniCode](#))

- A. Any resolution of the metropolitan council which appropriates funds from the general reserve fund shall contain in the body of the resolution information which justifies the expenditure of such funds. Such information shall include, but is not limited to, the following:
 1. Cost of equipment, fixtures, furnishing or repairs;
 2. Cost of construction;
 3. Age of equipment or furnishings which are being replaced;
 4. Expected life of equipment or furnishings being acquired;
 5. Any such other information as may be necessary and appropriate.
- B. The council shall not consider any resolution requesting funds for the renovation of the office of an elected official until such elected official has been in office a period of ninety days.
- C. Further, the council shall not approve the purchase of duty uniforms from the general fund reserve fund unless such uniforms have a use of ten years or longer.
- D. Notwithstanding any other ordinance or provision to the contrary, no expenditure for any item shall be reimbursed from the general fund reserve fund to the operating budget for any department when such items have been purchased without prior appropriation by the metropolitan council, except emergency purchases which have been approved by the director of finance.
- E. The metropolitan council shall not consider any resolution appropriating funds from the general fund reserve fund (four percent fund) for the benefit of any department, agency, board or commission of the metropolitan government which has received an appropriation from such fund unless the department, agency, board or commission:
 1. Has expended the funds previously appropriated for the purpose appropriated; or
 2. Demonstrates a reasonable time to expend such funds; and
 3. Discloses the status of prior appropriations.
- F. The information sheet and any required purchase requisitions must be executed by the appropriate department head, official or any other elected official of the metropolitan government.
- G. When funds requested pursuant to this section are to be used exclusively within a single council district, written notice shall be given to the councilmember representing that district at least one week before the resolution appropriating funds is filed with the metropolitan clerk. Included in this notice should be the information sheet for the expenditure or equivalent information.

(Ord. BL2018-1142 § 1, 2018; Ord. 94-1209 § 1, 1994; Ord. S90-1407 § 1, 1991; Amdt. 3 to Ord. 86-1534, 3/17/87; Amdt. 2 to Ord. 86-1534, 2/3/87; Amdt. 1 to Ord. 86-1534, 2/3/87; Ord. 86-1534 § 1, 1987)

Census of Governments Capital Outlay Function Codes

The following categories were included in the capital outlay estimates for municipal and county governments and derived from the U.S. Census Bureau's *Government Finance and Employment Classification Manual*. It should be noted that only *Construction* (code "F") and *Land and Existing Structures* (code "G") were included in these outlay estimates, and expenditures directed towards *Equipment* (code "K") were excluded from these totals. Additionally, these categories were selected as those closest to the functional responsibilities of Chattanooga and Hamilton County, and excluded capital expenditures related to categories such as hospitals, toll roads, or local water supply, as those are not the primary responsibility of these respective local governments. Similarly, while education is under the purview of county governments in Tennessee (aside from municipalities with school systems and a handful of special districts), it was excluded from this report and the capital expenditure categories below.

- Correctional Institutions (04)
- Other Corrections (05)
- Local Fire Protection (24)
- Judicial and Legal (25)
- Central Staff Services (29)
- General Public Buildings (31)
- Regular Highways (44)
- Housing and Community Development (50)
- Libraries (52)
- Parking Facilities (60)
- Parks and Recreation (61)
- Police Protection (62)
- Protective Inspection and Regulation NEC (66)
- Sewerage (80)
- Solid Waste Management (81)
- Public Mass Transit (89)
- Other and Unallocable (94)

Case Studies in Innovative Infrastructure Financing

Chen and Bartle (2022) provide a succinct chapter with brief case studies on local governments' use of innovative financing techniques. As such, Chapter 5 (*Case Studies in Innovative Infrastructure Financing*) from their book, *Innovative Infrastructure Finance: A Guide for State and Local Governments*, is included below.



5

Case Studies in Innovative Infrastructure Financing

This chapter presents in-depth case analyses of six various types of innovative infrastructure financing with the goal of offering best practices and lessons for state and local government professionals in considering the use of innovative infrastructure financing. The first section discusses value capture. The second section presents state infrastructure banks. The third section describes Green, Social and Sustainable Bonds. The fourth section discusses Public-Private Partnerships. The fifth section presents privatization. The last section describes crowdfunding. Each section includes a concise description of each method, the use of this method, two or more cases illustrating the method, as well as lessons learned.

5.1 Value Capture

5.1.1 Description

Value capture refers to any strategy where a public agency “captures” a portion of an increase in property values resulting from an infrastructure improvement to help pay for the infrastructure itself (U.S. DOT, 2019). Value capture often takes different forms. Across the U.S., the most common forms of value capture are developer contributions, special assessment and tax districts, tax increment financing (TIF), joint development, and naming rights. Value capture is widely considered as one potential new revenue source

that can be tapped to offer funding for a variety of state and local infrastructure projects (Zhao et al., 2012). This section focuses on one of the most important mechanisms of value capture—joint development. According to Zhao et al. (2012), joint development is “a formal arrangement between the public sector and private entities such that the private entities share some costs of infrastructure improvement or contribute some benefits back to the public sector based on a mutual recognition of the benefits of such infrastructure improvement” (p. 5). There are three basic characteristics in joint development (Renaissance Planning Group, 2014, pp. 7–8):

- A joint development project is mutually beneficial to its public and private sector participants.
- Joint development is opportunistic and takes advantage of specific opportunities at a location and the specific objectives and capabilities of the public agency and private developers involved.
- Joint development involves a financial transaction in which the project will include revenue or cost sharing between the public agency and a private partner.

In practice, the most common joint development arrangements range from ground leases to air-rights development, transit station interface, or connection improvement. Public transit agencies have heavily used joint development to capture some of the economic value created by the transit systems and use the funds to help finance transit operations (so-called Transit-Oriented Development [TOD]). In addition to transit, joint development agreements have also been used to implement highway improvements and parking projects. Three primary benefits of joint development include that it produces a new revenue source for the public agency, that it shares the cost of public infrastructure construction and operation between public and private sectors, and that it may stimulate transit ridership (Renaissance Planning Group, 2014).

5.1.2 Joint Development in Miami

Project: Miami-Dade County, Florida, is one of the few governments in the U.S. with extensive experience in implementing joint TOD projects. This county planned and constructed the Metrorail system with a large amount of land surrounding the transit stations under the control of Miami-Dade Transit (MDT).

In 1994, a joint development project in the Dadeland North Metro-rail Station was initiated. Private developers were attracted by the proximity of Dadeland North Station to the nearby Dadeland Mall and the general absence of available land in the area and approached MDT about developing the Dadeland North Station area. The private developers and MDT agreed to a 99-year land lease in 1994. Under the joint development agreement, MDT receives a guaranteed minimum land rent and a gross rent payment based on the percentage of development revenues: 5% of the first \$7 million, and 5.5% of above \$7 million. MDT can penalize the developers for construction delays (delayed payment \$20,000 per month indexed to inflation.) The joint development agreement specified design specifications for transit access. The following Table 5.1 shows the phases and components of this joint development project.

Lessons Learned: The joint development project in North Dadeland Station generated a significant amount of stable revenue—\$428,021 in 2010. In addition, this project significantly increased transit ridership. The average weekday ridership at the Dadeland North station has approached 5,000 (Silva et al., 2012). Sharing infrastructure improvement costs is another key benefit that MDT received from joint development. Other lessons learned from this joint development project (Renaissance Planning Group, 2014, pp. 32–33):

- The county’s direct control of land surrounding the transit stations reduced political disagreements and layers of administrative approval in the permitting process.

Table 5.1 Dadeland North Station joint development project phases

Phase	Year Opened	Development components
Phase 1	1996	Big Box Retail: 355,000 sq. ft TOD Retail: 9,600 sq. ft Other Retail: 15,600 sq. ft Parking Garage: 1,487 spaces
Phase 2	2000	Apartments: 48 units
Phase 3	2005	Apartments: 110 units Town homes: 10 units Retail: 6,400 sq. ft Parking Garage: 214 spaces
Phase 4	Proposed	Office: 127,000 sq. ft Retail: 8,400 sq. ft Parking Garage: 362 spaces

Source Renaissance Planning Group (2014, p. 30)

- Conduct a market analysis to identify a list of projects where joint development is suitable.
- Develop standard protocols and teams to guide the joint development project from concept to construction.
- Be realistic about the market risk of land development.

In sum, the Dadeland North Station project demonstrates that joint development can be a win-win-win. The private developers have an opportunity to build profitable projects next to transit while the local transit agency obtains stable revenues and additional transit ridership as well as support for economic development. Miami-Dade County transit agency's experience highlights the importance of sound predevelopment planning and marketing and being very clear about goals for the development site.

5.2 State Infrastructure Banks

5.2.1 Description

State infrastructure banks (SIBs) use seed capitalization funds from federal transportation aid and state-matching funds to get started and offer low-interest loans and non-grant forms of credit enhancements to public and private sponsors of state and local transportation projects (Chen, 2016). The state of Ohio was one of eight states selected for designation under the SIB pilot program authorized by the 1995 National Highway System Bill. The Ohio SIB was initially capitalized with \$87 million in Federal Title XXIII Highway Funds, a match fund of a \$40 million authorization of state general revenue funds from the Ohio State Legislature, and \$10 million in state motor fuel tax funds (Ohio DOT, 2021). The objective of the Ohio SIB is to maximize the use of federal and state funds to make direct loans to eligible projects. Repayments are made to the Ohio Department of Transportation (Ohio Department of Transportation, 2011) and then re-loaned to subsequent projects, hence creating a SIB revolving loan program. In Ohio, eligible SIB loan applicants include any public entity, such as counties, cities, villages, townships, boards or commissions, regional transit, and port authorities. The Ohio SIB is one of the most active SIBs in the nation. As of September 30, 2020, the Ohio SIB has issued 252 loans totalling \$674.3 million to help local governments build various kinds of transportation projects since the inception of the program in 1997 (ODOT, 2021).

5.2.2 Using SIB for Economic Development

Project: In 2009, the City of Gahanna, Ohio, planned to build an overpass over the Columbus Outerbelt (I-270) to connect an isolated section of Gahanna with the rest of the community. This project was expected to be a boon for local economic development efforts, as the now-connected portion of the town was the last large, undeveloped land available for development. The total project cost was initially estimated to be \$8,147,500. The city's involvement with the Ohio SIB program was facilitated through the regional metropolitan planning organization, the Mid-Ohio Regional Planning Commission (MORPC), which allocated attributable federal funds. Each year MORPC receives approximately \$33 million of federal funds to use for transportation projects in central Ohio. These funds come from the federal transportation programs: Surface Transportation Program, Congestion Mitigation and Air Quality Improvement Program, and Transportation Alternatives Program.

In 2010, the Ohio SIB awarded a five-year short-term loan of \$6,347,508 to the city of Gahanna. The loan interest rate was 3%. The loan was used for the construction of a new 3,000-foot roadway on State Route 317 (Ohio Department of Transportation, 2011). The project included the construction of a new structure over I-270, which tied a new roadway into a Tech Center on the north side of I-270. MORPC handled the bulk of the administrative work related to the SIB loan and paid its share with federal funding. In 2015, the SIB loan was paid off by MORPC and the city of Gahanna.

Lessons Learned: The SIB loan made it possible for the city of Gahanna to complete the work years ahead of the next round of attributable federal funds. In addition, it allowed the city to access capital funds below market interest rates and save on its borrowing costs. To secure SIB loans, state and local government borrowers must submit loan applications and negotiate the structure of the loan term. Sometimes, local borrowers need to collaborate with regional or metropolitan planning organizations on the loan application. It is also important to government applicants to show the public benefits of sponsored projects and their ability to repay the loan. Finally, if a project is funded with federal funds in the SIB program, all Federal regulations (e.g., environmental requirements) must be followed.

5.3 Green, Social and Sustainable Bonds

5.3.1 Description

Green bonds are bonds that finance specific “green” projects that have significant environmental benefits. Entities issuing the bonds (issuers) agree to provide additional disclosures to potential investors to demonstrate alignment with four components of Green Bond Principles (GBP) as articulated by the International Capital Market Association:

- Use of proceeds: The proceeds of the bonds are utilized for eligible green projects (such as described below) and are described in the legal documentation. The projects should be assessed and, where feasible, quantified by the issuer.
- Process for project evaluation and selection: The issuer should communicate to investors the environmental sustainability objectives of the projects, the process of selection, and information on procedures by which the issuer identifies and manages perceived social and environmental risks of the projects.
- Management of proceeds: The proceeds should be tracked by the issuer and, if possible, the use of the proceeds be verified by an external auditor.
- Reporting: Issuers should provide regularly updated information on the use of proceeds. Most issue an annual report. The annual report should include a list of the projects funded by green bonds, a description of the projects, the amounts allocated, and their impact. (International Capital Market Association, [2021a](#)).

The GBP provide broad categories for suitable green activities:

- Renewable energy,
- Energy efficiency,
- Pollution prevention and control,
- Environmentally sustainable management of living natural resources and land use,
- Terrestrial and aquatic biodiversity conservation,
- Clean transportation,
- Sustainable water and wastewater management,
- Climate change adapted products, production technologies and processes,
- Green buildings (International Capital Market Association, [2021a](#)).

The first green bond, a Climate Awareness Bond, was issued in 2007 by the European Investment Bank. Since then, the green bond market has been expanding rapidly. In 2020, \$269.5 billion were issued worldwide, compared to \$104 billion in 2015. The cumulative issuance in 2020 surpassed \$1 trillion (Climate Bonds Initiative, 2021b). The U.S. was the largest in national rankings at over \$50 billion, followed by Germany, France, and China. The largest institutional investor was Federal National Mortgage Association (Fannie Mae). Several rail transport operators were prominent issuers, including the New York Metropolitan Transportation Authority, Los Angeles County Metropolitan Transportation, San Francisco Bay Area Rapid Transit District, France's national railway operator SNCF and Japan's fast train network operator JRRT (Ibid.). Other large U.S. issues include the Power Authority of the State of New York, Florida Development Finance Corporation, Illinois Finance Authority, San Francisco Public Utilities, San Diego County Water Authority, and Los Angeles County Public Works (Nastu, 2021). Some experts believe that green bonds are currently more limited by supply rather than demand (National Academies of Sciences, Engineering, and Medicine [National Academies], 2021, p. 15). If so, this market will continue to grow for the foreseeable future.

Social bonds raise funds for projects with positive social outcomes. Sustainability bonds are bonds where the proceeds will be exclusively used to finance a combination of green and social projects. Sustainability bonds follow the Sustainable Bond Guidelines (SBG), also established by the International Capital Market Association. These guidelines use the same four components for green bonds listed above (International Capital Market Association, 2021b). The first U.S. tax-exempt sustainability bonds were issued by the Massachusetts Bay Transportation Authority in 2017 (see case discussion below).

5.3.2 Experience with Green, Social and Sustainable (GSS) Bonds

GSS bonds are attractive to both investors and issuers. Investors may wish to invest in projects that fund environmental and social projects. They may also believe that GSS bonds signal lower environmental, social, and governance risk and therefore indicate stronger management and higher long-run returns. Or they may simply be interested in broadening their portfolios (National Academies, 2021, pp. 7–8).

Issuers are attracted to GSS bonds because they improve their reputation for environmental sustainability and perhaps their environmental performance. Since 2013, the Climate Bonds Initiative has issued a Climate Bonds Taxonomy that identifies projects across eight industries that reduce carbon initiatives. The projects fall into one of four categories: automatically qualified, potentially qualified pending meeting other criteria, not qualified, and more information needed (Climate Bonds Initiative, 2021a). Bond issues that automatically qualify likely entail less expense for issuers to bring them to market and generate more interest from investors.

There is no consistent evidence that green bonds carry a premium. There is research on both sides of the issue. “This is not surprising; given that financial markets are incredibly dynamic, no two bonds are identical, and the definition of green is highly variable, it is exceedingly difficult to obtain sufficient data to quantitatively demonstrate a pricing benefit for green bonds” (National Academies, 2021, p. 14).

The main weakness of GSS bonds is the additional monitoring and reporting costs. These costs may be one-time costs to develop the government’s sustainability goals and to link specific projects with these goals. They may also include process development, prospectus development, and establishing a tracking system to ensure that bond proceeds are spent on the designated projects. “After the initial cost of developing organizational capacity to issue green bonds ... preparing the required disclosures to issue green bonds cost about \$10,000 in staff time” (National Academies, 2021, p. 1). While this is not a large amount for a large issuance, it can be prohibitive for smaller debt issues.

Another concern with green bonds is what is known as “greenwashing,” which involves misleading potential investors about the environmental impacts of the project. These allegations can damage the issuer’s reputation, potentially for the long term. This underscores the importance of following the components of green bonds, providing truthful disclosures and regular annual reports.

One important nuance for GSS municipal bonds is their tax-exempt status. In general, this is attractive to U.S. taxpayers and leads to lower interest rates for municipal bonds. However, the tax advantage is not of importance to international investors, who are less likely to be interested in tax-free bonds because of their low return and inability to enjoy the tax benefit. Instead, a municipality considering a GSS bond may want to consider a taxable issuance which may attract a wider pool of international investors (National Academies, 2021, p. 18).

5.3.3 Green Bonds for Sewer and Stormwater Repair Projects

The City of Saint Paul, Minnesota, issued Minnesota's first green bond in 2015 and became one of the first green bond issuers in the nation. The city owns and maintains 804 miles of sanitary sewers and 450 miles of storm sewers. Most of the city's sanitary sewers are at least 50 years old, and many are 75–125 years old, so there was a long-term need for improvements. The proceeds from the green bonds were spent on sewer repairs, stormwater quality improvements, and the rehabilitation of sewers and tunnels.

The city had traditionally used tax-exempt municipal bonds to fund capital projects for the city. The sewer utility's capital projects clearly have an environmental impact. The city committed to make sustainability and green initiatives a priority, so green bonds were a logical option. The city began to explore the potential issuance of green bonds as part of its annual infrastructure debt financing program in late 2014 (City of Saint Paul, Office of Financial Services, 2016). By working with the city's financial advisor, the green bond designation was applied to the sewer revenue bond. In 2015, the city's \$8.7 million Sewer Revenue Green Bonds were the first sold in Minnesota. And since then, the city has issued green bonds every year for sewer projects (City of Saint Paul, Office of Financial Services, 2020). These bonds are secured solely by revenues of the city's sewer utility.

The city established formal processes to ensure that the program complies with the four components of the GBP: the proper categorization and use of proceeds, project evaluation and selection, management of proceeds, and reporting. The green bond reports are posted on the city's website and provide potential investors information regarding the projects financed and their environmental impact. A detailed listing of the specific projects is available in the annual report.

The city seeks to be a leader in sustainability and is now focusing on carbon dioxide reduction activities such as “energy efficiency and conservation, clean energy supply, alternative fuels and transportation options, recycling and waste reduction, urban reforestation and natural resources management, and water resources management” (City of Saint Paul, Office of Financial Services, 2016). The city adopted a “Climate Action and Resilience Plan” in December 2019, which has the goal of achieving carbon neutrality in city operations by 2030. As such, green bonds are an important tool for the city to meet the financing goals of repairing infrastructure and meet environmental policy goals.

Lessons Learned: It is important to ensure compliance with the four components of the GBP and to regularly provide a report for current and potential investors. The city's green bond report format is similar from one year to the next, so after the first year, it was mostly a matter of updating the report. It was also important initially that the city worked with municipal financing experts to identify and comply with the best practices of a green bond sale. Subsequent sales followed a similar pattern, so it did not take as much staff time after the first time.

It is important that the city had a long-term commitment to environmental and climate action policies over different Mayoral administrations, as this allowed for consistency in policy, which is important to investors.

5.3.4 Sustainability Bonds for Transit Projects

Projects: In 2017, the Massachusetts Bay Transportation Authority (MBTA) issued \$99 million of sustainability bonds, the first tax-exempt sustainability bonds issued in the U.S. “Before issuance, the MBTA formed an internal Sustainability Committee made up of internal stakeholders, directors, and managers to lead the drafting of the Sustainability Bond Framework” (National Academies, 2021). The Framework used the Sustainability Bond Guidelines of the International Capital Management Association. Projects fit into either the environmental (green bonds) category or the social bond category:

Environment

- Built environment: Respecting, protecting, and improving the built environment and enhancing the quality of the travel experience.
- Capacity: Reducing emissions from personal vehicle trips by increasing capacity to carry passengers and increasing the attractiveness of public transit by offering more frequent, reliable, and comfortable service.
- Carbon, energy, and climate resilience: Reducing carbon emissions and preparing for the potential impacts of climate change and extreme weather.
- Natural environment: Respecting, protecting, and enhancing the natural environment and its contribution to the quality of life.
- Noise: Managing and controlling transport-related noise and vibration.
- Pollution prevention: Proactively managing activities to minimize and control pollution.
- Resource management: Using resources wisely and minimizing waste.

Social

- **Affordability:** Balancing customers' means, particularly low-income riders, with the organization's financial constraints.
- **Accessibility:** Operating an inclusive system with facilities designed to accommodate a diverse customer base.
- **Availability:** Ensuring that communities within the service area have reasonable, equitable access to the system.
- **Equity:** Offsetting social and environmental burdens experienced by populations or communities within the service area and/or striving for an even distribution of benefits and burdens across the diverse modes, customer bases, and service area.
- **Safety:** Protecting the well-being of passengers, operators, and the general public.
- **Workplace environment:** Maintaining a safe, empowering, and satisfying workplace environment for MBTA and affiliated employees (MBTA, 2018, p. 5).

The committee included representatives from several MBTA departments and sought the advice of external stakeholders. The committee selected projects from the MBTA's capital improvement program using a project selection process guided by the Framework. The project funded over 100 projects ranging in cost from \$100,000 to \$9.8 million for projects addressing priorities such as climate resiliency, rider capacity, pollution prevention, and accessibility. The MBTA publishes an annual Sustainability Bond Progress Report.

Lessons Learned: The bonds were more favorably received by the market than a traditional MBTA bond offering at the same time. "In fact, six of the eight banks that participated in both offerings submitted more aggressive bids on the sustainability bond... This increased demand translated into a lifetime interest savings of approximately \$2.60 per \$1,000 issued" (National Academies, 2021, p. 25). The bond was recognized as *The Bond Buyer's* 2017 Northeast Regional Deal of the Year and a finalist for the National Deal of the Year award.

As the first such offering, it was important that the MBTA did careful up-front work to ensure the projects met the Sustainability Bond Guidelines, ensuring investors that the funds would indeed be used for projects meeting the Guidelines. This established that sustainability bonds could address social and environmental benefits, and that there is a demand by investors for sustainable bonds. In the spring of 2020, the MBTA issued its second sustainability bond for \$45.7 million for more than 50 projects.

5.4 Public-Private Partnerships (P3s)

5.4.1 Description

In the U.S., the growing demands for upgrading and expanding public infrastructure systems and constraints on public resources have led to calls for more private investment in public infrastructure. Public-Private Partnerships (PPPs, or P3s) are commonly defined as a contractual arrangement in which governments form partnerships with the private sector to design, finance, build, operate, and maintain infrastructures such as toll roads, water supply facilities, and wastewater treatment plants (US DOT, 2012). Building on a contractual agreement, the resources, assets, and skills of public and private sectors are shared in delivering a facility for the use of the general public. Moreover, through this agreement, each sector shares in the risks and rewards potential in the delivery of the facility.

Many different types of P3s exist. They are often characterized by dividing the responsibility for the five major functions of project development (design, build, operate, maintain, and finance) between the government and the private entity. Yescombe (2012) identifies the key characteristics of P3s as:

- A long-term contract between the public and private organizations.
- Private assumption of one or more of the responsibilities and risks of designing, building, operating, maintaining, and financing a project.
- Reimbursement of the private party by the public agency for the investment and risk of the project.
- Ownership of the facility remaining with the government or, as agreed upon, being transferred at a specified time.

P3s are not new to the U.S.; however, they are used less in the U.S. compared with other countries such as the U.K. and Australia. One main reason for the limited growth of P3s in the U.S. is due to the unique tax-exempt municipal bond market, which allows state and local governments to borrow at lower costs in the private capital market (US CBO, 2020). In recent years, due to the increasing gap between infrastructure demands and available public funding, there has been a growing interest in P3s. As of August 2018, 36 states had authorized P3-enabling legislation. In a 2016 survey by the ICMA (2017), 119 of 601 governments (19.8%) responded that they actively used P3s. Typically, those governments that utilized P3s tended to be larger, perhaps because the complexity of P3s requires a high degree of

expertise. The resources to learn about the benefits of and the challenges to P3 have grown rapidly.

5.4.2 Portland Transit Extension

Project: A P3 was used to build an extension of the Metropolitan Area Express (MAX) light rail line to link the urban core of Portland to the Portland International Airport (PDX). Three other transit stations were part of the project. The MAX system is operated by TriMet, a public agency that provides bus and rail transit in the Portland metropolitan area, and PDX is operated by the Port of Portland. TriMet and PDX joined with the Portland Development Commission (an independent city economic development authority) to agree to a P3 with Bechtel Enterprises.

Bechtel provided funding for 23.1% of the project's \$128.8 million construction and engineering costs and received a sole-source, no-bid contract to design and build the extension. In return, Bechtel received the right to develop a mixed-use development near the new MAX station. The development included office space, retail, hotels, and a gas station. The three public agencies paid for the remainder of the rail link construction and engineering costs. Transit fares partially offset operating costs. No federal funds were used. The project was completed more than 10 years earlier than had been planned. It is estimated that the public costs to develop the extension were reduced by about 23% by the P3 (Gosling & Freeman, 2012, p. 11). The extension improved transit access to the airport and encouraged greater use of transit for airport trips. This example demonstrates how a project can leverage values in ways that could not be done without a private sector partner. Private developers can use new transit stops for retail, office, or commercial development and often extract more value than public agencies typically can. Public agencies benefit from completing the projects faster and at a lower cost. In this case, the improved airport access was an additional benefit for the region. It required the city to agree to waive bidding requirements and a sole-source contract with Bechtel. Public participation did not occur until after the negotiation and design, and so was less influential. A high level of trust between the partners was important.

Lessons Learned: P3s are not a panacea to address infrastructure challenges, but their ability to leverage private sector capital and expertise can help governments confront complex challenges and accelerate project completion. However, building a successful partnership between the public and private sectors is inherently challenging. It is important to balance the profit goal

of private companies with the public interest and create a win-win for both parties. A successful P3 should allow the public sector to advance public value and allow the private party to secure its required return. Maintaining a high level of trust between the partners is crucial to implement P3s. To further protect public interests in P3s, engaging political leaders and the general public in the early project development stage is recommended, though not necessary as demonstrated in the Portland case.

5.5 Privatization

5.5.1 Description

Compared to Public-Private Partnerships (P3s), privatization is further along the continuum away from publicly provided services. As discussed above and in the previous chapter, P3s include several arrangements involving private participation in the five key phases of designing, building, operating, finance, and maintaining a facility. Privatization involves greater private participation in these phases. For example, in building a *new public facility*, some possible privatization arrangements include:

- Design-Build-Operate-Transfer (DBOT): The firm designs and builds a new facility, operates it for an agreed upon time, then transfers it to the government. Financing may be public, private, or shared.
- Design-Build-Own-Operate (DBOO): Like DBOT, except the firm owns the facility under a long-term contract or franchise agreement and assumes the risk and keeps the profit (Savas, 2000, pp. 244–247).

In the situation where an *existing public facility* is rehabilitated or expanded, the firm may lease or buy the facility from the government, then operate it and collect user fees under a concession agreement for a specified time. Typically, the level and rate of increase of the user fees are specified in the agreement, as is the level of service and/or maintenance spending.

The key distinction between P3s and privatization is that the private partner assumes partial or full ownership of the facility. While it is common for private investors or individuals to hold bonds backing an infrastructure project, this is not the same as holding equity which entitles investors to profits after the costs and required reserves are paid. “Under the municipal bond model, the private sector has one concern – full and timely payment of bonds. Under the private equity model, the private sector hopes

that revenue will exceed forecasts and yield returns greater than expected” (Ortiz & Buxbaum, 2008, p. 136).

One of the key concerns of private firms in these situations is risk. There are many dimensions of risk in these situations. Costs of construction or operation may be higher than expected for many reasons, and revenues may be less either because of lower-than-expected demand, competition, or contractual restrictions on raising fees. There may also be environmental/regulatory risk caused by unexpected environmental damage leading to regulations affecting the firm’s profits. Changes in technology may also affect a long-term project (Page et al., 2008; Savas, 2000). The higher the risk for the firm, the less attractive the investment, and they will want to push these risks back on to the government or the public. In some cases, governments can assume risks more easily than firms because they control factors such as regulation and user fees. When the government can assume this risk, it can lead to favorable conditions for a mutually beneficial agreement.

The longer the agreement term, the lower the risk for the concessionaire, especially if they can structure the debt in a favorable way. Long-term investments in U.S. infrastructure are particularly attractive to some investors, such as pension funds and endowments, because these investments have a similar long-term focus with an emphasis on stable returns. In addition, some concession agreements such as toll roads may have inflation escalation clauses which provide effective hedges against inflation, which is also attractive to long-term investors (Page et al., 2008).

Broadly speaking, Donahue (1989 pp. 79–80, emphasis original) articulates the conditions when privatization can be preferred to public provision: *“The more precisely a task can be specified in advance and its performance evaluated after the fact, the more certainly contractors can be made to compete; the more readily disappointing contractors can be replaced (or otherwise penalized); and the more narrowly government cares about ends to the exclusion of means, the stronger becomes the case for employing profit-seekers rather than civil servants.”*

The strengths of privatization then include:

- access to private sector expertise and skills,
- typically, faster construction of new facilities,
- transfer of risk to the party who can most easily bear it, and
- up-front payment to the government.

The weaknesses include:

- complicated contracts and negotiations,

- enforcement and monitoring costs, and
- loss of public control and flexibility.

5.5.2 Chicago Skyway and Indiana East–West Toll Road

Projects: The City of Chicago, Illinois pioneered the privatization of municipal infrastructure with the first long-term lease of an existing toll road in the US. In 2005, the city leased the Chicago Skyway, a 7.8-mile city-owned toll road, for 99 years for \$1.83 billion to the Skyway Concession Company, owned by Cintra Macquarie, a consortium of Australian and Spanish private investors. The city initially hoped to receive about \$900 million, so the actual amount was a huge windfall. The city was able to pay off the outstanding bonds, which led to an upgrading of their credit rating (Ashton et al., 2020). More than half of the traffic on the Skyway comes from out-of-state drivers, reducing the political opposition. While competing routes are congested, the Skyway is not.

The Skyway Concession Company is responsible for operating and maintenance costs and collecting toll revenues. Their business approach is to combine geographically diverse investments into portfolios that can then be packaged and sold to investors. They were able to refinance their short-term variable rate debt with long-term bonds, lowering their risk and increasing the value of these assets. “This generated a \$373 million windfall that it paid out as a distribution to equity investors [which] helped Macquarie generate a 21% internal rate of return for the investors” (Ashton et al., 2020, p. 2).

In 2006, Cintra Macquarie, doing business as Indiana Toll Road Concession Company (ITRCC), also leased the 156-mile Indiana East–West Toll Road for \$3.85 billion for 75 years, about twice as much as anticipated. The Toll Road flows directly into the Chicago Skyway, and so is the main source of Skyway traffic. The ITRCC filed for bankruptcy in 2014, but other Australian investors bought the concession and exited bankruptcy in 2015 (Renn, 2016). Like the Chicago Skyway, most of the traffic on the East–West Toll Road comes from out-of-state drivers, reducing the political opposition. Some of the funds received by the State of Indiana were used for infrastructure aid in the area and other parts of the state, as well as rehabilitating bridges and pavement throughout the state. This also helped generate political support for the deal.

Lessons Learned: These investments were more attractive than expected. This was for several reasons:

- These toll roads provided a predictable cash flow and did not face the high up-front costs and revenue risks faced by a new project.
- U.S. governments are generally stable investments with a reliable legal system that enforces contracts (Ortiz & Buxbaum, 2008). This makes them attractive to international investors.
- Equity investment opportunities in infrastructure attract a new set of investors, “with higher tolerances for risk, which in turn tend to generate more liberal appraisals of asset value” (Garvin & Bosso, 2008, p. 164).

This helps to explain the higher-than-expected sales prices for the Chicago Skyway and the East-West Toll Road, which brought huge windfalls to both governments. These funds can then be used for other important public infrastructure projects. In both cases, most of the tolls are paid by non-residents, reducing political opposition. The proceeds of the sales were also used well politically.

The Skyway was a nonessential service appropriate for privatization because the focus was not on the means of service delivery, but the ends, as opposed to a core municipal service where government cares about both the means and ends.

While this was a successful case, there are some downsides to these sorts of arrangements:

- Long-term leases constrain future options for the government. Many things can change, including technology, demand for goods, political preferences, and desirable performance standards, and it is difficult to anticipate future citizen demands.
- Concessionaires “may cut costs by taking actions that harm a vulnerable segment of society, such as low-income citizens” (Chicago Council on Global Affairs, 2011).
- Long-term leases shift revenues from the future into the present. While this may be good in some cases, in other cases, it may transfer wealth from future generations to current citizens.

5.5.3 Parking Meters in Chicago

Project: In 2008, the City of Chicago, led by Mayor Richard M. Daley, leased its 36,000 on-street meters for 75 years to a Morgan Stanley-led investment group for \$1.16 billion. Only one other qualified vendor submitted a bid. The concessionaire was required to install kiosks for payments to accept credit cards and was given a non-compete clause that prohibited the city from

opening off-street parking lots that would compete with the meters. The use of the funds undermined public opinion. Initially, the proceeds were to be used for reserve funds to replace the \$17 million in annual lost parking meter revenues and a “human infrastructure” fund for community economic development projects. Instead, the payment was largely used to cover the city’s budget deficits due to the Great Recession. Further, the city was required to reimburse the concessionaire for revenue lost due to street closures, street festivals, parking waivers for the disabled, and public works projects interrupting the flow of meter revenue. The city was billed \$55 million in the first two years for these events, and this provision required the city to repurchase rights-of-way for bike lanes, bus rapid transit lanes, or other elements of their sustainability action plan (Ashton et al., 2020). “By 2010, only \$180 million was left” of the \$1.16 billion (Renn, 2016, p. 6).

In most Chicago neighborhoods, parking meter rates increased from 25 cents per hour to \$2 an hour. Downtown parking meter rates increased from \$3.50 in 2009 to \$6.50 an hour by 2013. “The higher rates provoked outrage. Meters broke as they overflowed with quarters before the new credit card-reading kiosks were installed” (Renn, 2016, p. 6). The city was required to take harsh measures against drivers not paying their parking fees with “boot” vehicle clamps and license suspensions which were said to have a “disproportionate impact on low-income and minority drivers, many of whom ended up in bankruptcy owing to their inability to pay” (Ashton et al., 2020, p. 3). In 2008, incoming Mayor Rahm Emanuel said “This was a bad deal for our city and a bad contract for our residents. They city should never have done this deal. Period” (Renn, 2016, p. 4).

Lessons Learned: Mayor Daley gave the city council only three days to vote on the agreement, and it was approved after one hour of debate by a 40–5 vote. Some council members later admitted that they did not have time to review the agreement. “The Chicago inspector general noted that very limited financial information was provided to the council. No financial analysis of the parking meter system’s value was provided. No public comment or expert testimony was given, nor was there any presentation of comparable studies or alternative lease terms” (Calia & Msall, 2011 p. 12). “The rushed approval process created a public perception that the parking meter deal was illegitimate, if not crooked” (Renn, 2016, p. 8). Complicated agreements like this that affect a wide variety of citizens need to be explained and perhaps adapted to achieve consensus and legitimacy.

The financial outcome for the city was a major loss. The funds were not used as planned, and the city lost the revenue stream from meters as the concessionaire was entitled to all of it. The city receives only \$2.5 million

annually from the reserve fund created with the proceeds of the sale, as opposed to \$17 million in meter revenue prior to the agreement. Perhaps the worst part of the agreement for the city was the requirement to reimburse the concessionaire for meter closures in excess of an annual allowance. “Compensation payments for free disabled parking alone reached as much as \$21 million per year” (Renn, 2016, p. 10). The Emanuel administration renegotiated this payment down to \$6.5 million annually, but this obligation, combined with the lost annual meter revenue, made this a net loss of \$35 million for the city. This budget gap will last for the 75 years of the lease.

Parking spaces are not highly “asset-specific”—that is, unlike toll roads that can only be used for one thing, parking spaces can be used for other uses other than parking, and increasingly are—for bus rapid transit lanes, cycling lanes, or converted back to sidewalks. Thus, a long-term agreement that dedicates this land for parking locks the government into using this land in this way for many years. The same is true of similarly flexible urban spaces such as sidewalks and green spaces. Further, the city tied itself into a narrow contract by not being able to provide free or discounted parking to the disabled or any other groups to whom they might want to provide a discount: carpools, busses, or school vans.

5.6 Crowdfunding

5.6.1 Description

Crowdfunding is the sourcing of small amounts of funds from a large group of individuals. It is an emerging method and has become increasingly popular for raising donations for a wide variety of projects. Crowdfunding builds a connection between entrepreneurs who aim at raising the fund (the fundraisers) and the investors (the crowd) who are willing to invest small amounts through an internet-based intermediary (an online platform).

Civic crowdfunding has been successful in funding small municipal infrastructure projects. An estimated \$50 million has been raised by 2019 (Gasparro, 2019). More than 60% of civic crowdfunding campaigns by 2015 had successfully reached or exceeded their target amount (Gasparro, 2015).

There are several popular online platforms for civic crowdfunding: ioby, Spacehive, neighbor.ly.¹ While civic crowdfunding can be used for any project, Gasparro (2015, p. 6) believes that it “has huge potential to be used for municipal infrastructure projects.” Civic crowdfunding is not only a potential source of funding but also a way to gauge civic demand for a project by seeing the response to the crowdfunding appeal. It also typically is more decentralized than the typical state or local decision-making process, as the group of people (who may or may not be citizens of the jurisdiction) can raise funds for a project without having to go through the often slow and cumbersome process of attaining approval and appropriation by a governing body and ensuring the funds are spent on the desired project. Further, other citizens who may not want to pay their tax dollars for the project do not have to. Thus “niche projects” that appeal to relatively small groups but not the government’s broader citizenry can be funded without taxing other citizens.

It is uncommon for civic crowdfunding to supply all the necessary funds for a project. One common approach is for crowdfunding to provide “first dollar” funding. For example, if a city is unsure about the demand for a project, an appeal on a crowdfunding platform can establish whether there is sufficient demand by seeing if the minimum level of funding is achieved. If so, other public funding sources are made available; if not, the project is not approved, and the funds are returned. This can lower the perceived risk to other investors by enduring sufficient demand before committing to the project. “Last dollar” or “last mile” funding calls for support after an initial decision has been made but before the public funds are released. They may also be for enhancements to the project or to enable the project to be implemented faster.

Crowdfunding initially employed a “patronage model” where contributions to the project were seen as an opportunity for people to donate without expecting a return. In the case of the “rewards-based model,” funders receive a nonfinancial reward, often a small gift for their donation. New models are emerging in situations where the project will generate a revenue stream in the future. The “lending model” is like a bank loan, where the funders receive a fixed return. One example is the use of community bonds by the Center for Social Innovation in Canada. The Center has issued bonds backed by mortgages for buildings that they purchased or restored for the use of nonprofit organizations, and the investors have a claim to these mortgages, providing a return on their investment (Young, 2017). Another model is the “investor

¹ Neighborly was created in 2012. It was an online crowdfunding platform specifically focused on raising money for critical fiber broadband infrastructure to communities. However, it was shuttered after failing to secure funding in 2019.

model,” where investors acquire an equity position in the project and receive a variable return like a stock dividend. The Securities and Exchange Commission now allows crowdfunding platforms to bypass securities brokers, making the investor model easier (Young 2017). Some platforms provide detailed information so potential investors and lenders can make informed decisions, reducing their risk and improving the likelihood of investment.

5.6.2 Experience with Crowdfunding

Research on civic crowdfunding has found that projects that meet their funding goal are more likely to do so quickly and tend to attract the support of a group or local businesses (Gasparro, 2015). Projects are also more likely to be approved and to fund a higher percentage if the request is smaller (Mayer, 2019). More recently, government involvement has been found to provide a “certification” that verifies that the funding will be used as promised, increasing the citizen’s trust in a project (Hong & Ryu, 2019). In South Korea, a law passed in 2015 created a process where a government agency would review crowdfunding proposals, select those deemed feasible, and then provide this information on the crowdsourcing platform to potential funders. Examining 110 projects on the Korean crowdfunding platform Wadiz in 2016, Hong and Ryu (2019) found that government support for a project increased the success in achieving project funding goal by 64% and increased the amount funded by 55%. This suggests that, properly done, there is a positive synergy between the momentum of a crowd and the stability provided by government assurance. This is like traditional private investing, where government bond guarantees improve the return on bonds, and some degree of stock market regulation improves investor confidence.

An example of the positive synergy between crowdfunding and government participation is a small project in the City of Nephi, Utah, population of 5,560. Nephi had a baseball field without lights. The city approached several foundations for contributions to install lights. The foundations were willing to help but wanted to see some local effort. A crowdfunding request was made on RocketHub. The city publicized the fundraising effort through traditional media, which attracted other donors, some of whom were less comfortable giving through crowdfunding, or wanted to be recognized for their donation. This provided more assurance about the viability of the project. In the end, the funding came from three sources: five foundations provided a total of \$112,500, and direct donations and crowdfunding from both businesses and individuals provided \$12,500. There were no legal barriers and no restrictions. The City Administrator said the project presented

little risk. In this case and many others, crowdfunding is complemented by other sources. Indeed, the publicity created by crowdfunding often helps leverage other donations as well as government funding. The few legal barriers and restrictions make it easier to raise funds this way, and the risk can be minimal.

The strengths of civic crowdfunding as a means of funding infrastructure include:

- Reduced capital costs associated with privately financed infrastructure.
- Able to fund small infrastructure projects quickly with less government funding.
- Reduces the risk to investors because it can ensure there is sufficient demand before the investors commit funds to the project.
- Involvement of local citizens and other funders in a decentralized, voluntary way.

The weaknesses of civic crowdfunding in funding infrastructure include:

- Difficulty in funding large infrastructure projects.
- Effort required to initiate a funding campaign.
- Risk of online platform closure and failure or loss of reputation if funds are not returned.

5.6.3 Crowdfunding for a Recreation Project

Project: The City of Culver, Oregon (population 1,442) was approached by the family, friends, and the “church family” of a child who passed away to honor his memory by building a splash pad in a park. The city told the group that if they raised the funds, the city would provide the land and assume the ownership responsibility and costs for the splash pad. The group used a crowdfunding approach to raise funds through gofundme.com. In addition to this source, there were bake sales at the school, and the Rotary Club made this project their fundraising event for the year. In total, these groups raised about \$33,000. This project caught the attention of a pool company that donated the splash pad.

The group raised funds and worked with the city to authorize payment of bills related to the project. There were no legal barriers or restrictions to using this tool. The impetus came from the family, community, and the church, and the funds were raised very quickly, so within a year, the project went from an idea to a reality. The operating costs have been high, and the city was not

prepared to take on this expense. Also, the city needed to decide how to pay the costs of maintenance and replacement in the future.

Lessons Learned: The city did not initiate the project and did not incur any out-of-pocket expenses initially. The city did provide the land and incurred maintenance and operating costs after the project was completed. Thus, there was no risk and no cost to taxpayers initially, but there has been since then. The energy of the community groups was important in publicizing the project and raising funds. The City Manager referred to it as an “emotion-driven project,” a good illustration of a niche project. Also, the rapid success of this small project fits with the research findings mentioned: that projects that meet their funding goal are more likely to do so quickly, are also that smaller projects are more likely to be approved and to fund a higher percentage.

5.6.4 Crowdfunding for Cycling

Projects: In 2014, the City of Memphis, Tennessee, issued a crowdfunding campaign to help build a local bike transportation project. This was the first American bike transportation project paid for in part by crowdfunding. The organization Livable Memphis promoted an effort to enhance bicycling infrastructure. The Hampline project connected Binghampton, a low-income neighborhood, to the downtown and the bike path network. Total costs for this project were \$2 million from public and private sources, and crowdfunding provided last-mile funding of \$75,000 (compared to a \$67,150 goal) through the platform ioby.org from approximately 500 donors. Donor names were inscribed on a plaque, and a bike rack and bike repair station were provided with the funds raised. Crowdfunding allowed Livable Memphis to vet the project and design plans, reducing the risk to donors. (City of Memphis Bikeway and Pedestrian Program, 2021; Gasparro, 2015).

In 2014, Denver, Colorado raised \$36,085 of a \$35,000 goal through ioby.org for the Arapahoe protected bike lane project from 250 individual and small businesses, 75% of whom were within 5 miles of the project (Gasparro, 2019). The campaign provided last-mile funding to fund the remaining amount needed to complete the project. The Downtown Denver Partnership (DDP) and City and County of Denver sought to create more protected bike lanes to accommodate a 42% increase in bike commuting. DDP secured \$120,000 from the Gates Family Foundation and the Downtown Denver Business Improvement District (BID) (Gasparro, 2015). The

City pledged to cover half of the \$70,000 of the design fees and the construction costs if the DDP could raise the other half of the design fees (\$35,000). The project went from design to ribbon cutting in less than one year.

“DDP saw crowdfunding as an opportunity to allow community members and businesses to make a statement about what matters to them and to have the chance to ‘vote with their dollars.’ The ultimate goal of this campaign was to gain community buy-in” (Gasparro, 2015). “Letting communities vote with their dollars isn’t just about budgets. It is much more about letting local residents and businesses know early on about the project and allowing them to participate in a meaningful way” (Gasparro, 2019). This shows how crowdfunding can be a more direct, decentralized way for citizens to express their preferences and reduce the risk of projects to the city and private civic groups.

“Instead of holding a short public comment period, community organizations engaged residents and business owners early in the design process. This made a huge difference” (Gasparro, 2019). The DDP gathered input about the project’s design and worked with city planners to redesign the project in response to concerns about parking, access routes, and Fire Department access to hydrants. This helped attain buy-in to the project from those affected.

Despite this, some were frustrated by the crowdfunding approach to raising funds. A crowd funder in the project said, “It is NOT the community’s responsibility to pay for infrastructure in any way beyond taxes ... The city needs to step up and pay for something that is good for the community and stop treating bike riding as a niche hobby” (Emphasis original, Gasparro, 2018). In addition, a member of the BID said that crowdfunding “is not a regular funding approach, that this is a one-time or limited use approach. I think it is fine to do it a couple of times but for various strategic reasons” (Gasparro, 2018).

Lessons Learned: In both cases, the amount raised was relatively small, but the funds were raised quickly, again consistent with research findings. Crowdfunding provided a meaningful opportunity for citizens to “vote with their dollars” and make their preferences known directly. Civic participation in crowdfunding and the discussion of the projects encouraged those involved to reach a consensus regarding design issues that might have created problems otherwise. However, the frustrations expressed suggest that at least in the Arapahoe Project, some participants do not see crowdfunding as a financing approach that should be used regularly for infrastructure projects.

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Chattanooga Tech Accelerator

Data Analyst
Cohort I

The Accelerator Strategy

- **Cross-Sector Employability** — Accelerator graduates are not siloed into just one sector, they are employable across multiple industries.
 - *Ex: There is an emerging demand for Data Analysts across a diverse array of sectors: healthcare, advanced manufacturing, education, insurance, and IT. Graduates have a wider range of options for post-accelerator employment.*
- **Credential-Driven** — Credentials and micro credentials create tangible value for both employee and employer.
- **Track Record of Success** — The Accelerator Model has been used successfully in partnership with municipal partners—most notably with the Washington, D.C. with the municipal Department of Employment Services.
- **Employer-Informed** — We work directly with employers to ensure training is relevant, timely, and marketable. The Accelerator Model begins with a job and works backward to strengthen the pipeline to full-time employment.

Job Outlook: Data Analyst

1. Annual Demand in Chattanooga MSA:

- ~ 55 Openings Annually

2. Annual Wages in Chattanooga MSA: \$40k to \$110k

- *TA grads will be ready to apply for the \$40-50k jobs.*
- *TA grads will be ready to apply for the \$75 to \$110k jobs.*

Skills-Driven Training

- A. Employers pick the skills and microcredentials they want before hiring as an employee or apprentice.
- B. Ability to forefront skills instead of curriculum.
- C. Ability to leverage WIOA workforce funding.
- D. 20% asynchronous content.
- E. Led in person to build teamwork and professional skills

Data Analysis Certificates: (We will narrow down to 4-5 based on employer's input)

1. Microsoft Certified: Data Analyst Associate
Provider: Microsoft
2. Certified Analytics Professional (CAP)
Provider: INFORMS
3. Google Data Analytics Professional Certificate
Provider: Coursera (offered by Google)
4. IBM Data Science Professional Certificate
Provider: Coursera (offered by IBM)
5. AWS Certified Data Analytics - Specialty
Provider: Amazon Web Services (AWS)
6. SQL Certification
Provider: (LinkedIn Learning, or Codecademy)

Tech Accelerator Operations Overview

- A. The accelerator runs 7 weeks, Monday–Friday 5:30pm to 8pm.
- B. In-person instruction co-hosted by ChaTech (tentatively at INCubator).
- C. Participants earn a progressively increasing stipend, and between 4-5 portable, industry-recognized credentials.
- D. Designed to produce job-ready grads prepared for in-demand openings.
- E. Strengthens the talent pool for Registered Apprenticeship Programs (RAPs)
- F. Industry-grade laptops provided by Tech Goes Home (Enterprise Center).
- G. Taught by Industry-expert contract instructors and tutors
- H. Curriculum and certificates provided by Apprenticeship Works and BuildWithin

Story of Successful Tech Accelerator Grad: Chyna Keene

This is Chyna Keene, a DC resident and a graduate of DC DOES & BuildWithin's **Tech Accelerator** program.

Chyna began her career transition to the technology sector in **November 2022** from a career in the service industry (after attending a semester of college). The Accelerator provided training in technology tools, CompTIA certifications, and modern software such as Jira and Intercom.

In **December 2022** Chyna graduated from the Tech Accelerator program and was hired to be a full-time apprentice.

In **February 2023**, Chyna secured full-time employment at an industry-aligned employer. She has since been promoted and works directly with customers and clients all over the world.



Accelerator Outcomes

I. Primary Direct Outcomes:

- A. Hired directly into an entry-level Data Job
- B. Hired directly into a Registered Apprenticeship for advanced Data Analyst.

II. Secondary Outcomes:

- A. Upskill and advance incumbent workers to mitigate the risk of adopting registered apprenticeships for companies.
- B. Design and execute a replicable “on-ramp” for future accelerated training cohorts for advanced-skills learn-and-earn models.
- C. Portable training format that can be integrated into recruitment of future companies and Economic Development.

Tech Accelerator Budget Outlay

Chattanooga Tech Accelerator			
Budget			
<u>Expense</u>	<u>Quantity</u>	<u>Rate</u>	<u>Total</u>
Trainee Stipends	weekly	\$500 average	\$28,000
Instructors	3 Instructors	\$1000 weekly	\$21,000
Incidentals			\$1,000
	Total to Launch Accelerator:		\$50,000

Tech Accelerator In-Kind Contributions

In-Kind Contributions	<u>Amount</u>	<u>Contributor</u>
Devices	\$16,000	Tech Goes Home
Meeting Space	\$8,750	ChaTech
Software Licenses	\$7,000	BuildWithin
Certificates	\$8,768	BuildWithin
In-Kind Estimate	\$40,518	

Strategy Roadmap & Sustainability

- **Tech Accelerator Strategy:** Pilot proven program to establish industry partnership and generate candidate engagement.
 - Tech Accelerators have been successfully created, sustained, and expanded in the Washington DC and Los Angeles markets. We are leveraging assets from these markets and customizing them to our local employer landscape.
- **Funding Sustainability:** Several proven options to secure and sustain funding for Tech Accelerators, we are actively pursuing several streams.
 - **Public-Sector funding** via WIOA, USDOL, and other sources are a stable source of support for Tech Accelerators, and we are pursuing them.
 - **Private philanthropy** is a common source to fund Tech Accelerators—both corporate foundations, private grant-making foundations, and individuals.
 - **Employer-Consortium** funding is another highly effective source of funding for Tech Accelerators. Individual companies, professional associations, and other business-adjacent sources are all sustainable sources.



AIS ENCLOSURE SYSTEMS EXPANSION OPPORTUNITY



AIS ENCLOSURE SYSTEMS

- Operating in Chattanooga since 1968, originally Lectrus Corporation. Lectrus Corporation was acquired by Avail Infrastructure Solutions in 2018.
- AIS Enclosure Systems manufactures modular e-houses that house electrical infrastructure, relay and control panels, modular data systems and power distribution centers that are used on construction sites and manufacturing facilities.
- The company currently operates a facility at 1919 W. Polymer Dr., Chattanooga, TN 37421 where they have 104 employees.



EXPANSION OVERVIEW

- AIS Enclosure Systems reached out to the Chattanooga Chamber in September 2023 regarding the potential expansion. The Chamber has partnered with TNECD, TVA, City of Chattanooga, and Hamilton County to support the expansion.
- AIS Enclosure Systems is proposing an expansion of their Chattanooga operations.
 - New Jobs Created: 82 by 12/31/2026
 - Average Wages: \$58,639 annually
 - Estimated New Annual Payroll at full ramp up: \$4,808,398
 - Capital Investment
 - \$4.5 million in real property
 - \$3.8 million in personal property
 - **\$8.3 million total**
 - Chattanooga is competing with GA for the project.



HIGH GROWTH JOBS & INVESTMENT PROGRAM

- Performance based incentive program designed for the creation and retention of net new jobs
- Addressing a need for a tool to support high growth expansions, relocations and new operations that are competitive but do not meet PILOT thresholds.
- Project should be in target industries, create at least 25 new jobs over three years, and have average wages at least 80% of the current Hamilton County average wage to encourage economic mobility
- Incentive payout is based on new jobs and average wages
- The incentive is performance based and would be paid out as the jobs are created and retained
- Proposing \$2,500/job for AIS Enclosure Systems. Total of \$205,000 between 2025 - 2030
- Working with Hamilton County to support 50% of the incentive. Hamilton County Commission hearings are set for Nov. 13th and 20th.



PAYOUT SCHEDULE

Grant Payment Schedule*									
	New Employee Annual Goal & Initial Year to Measure Goal		2025	2026	2027	2028	2029	2030	Total
Phase I Net New Employees	15		\$9,375	\$9,375	\$9,375	\$9,375			
Date	12/31/2024								
Phase II Net New Employees	34			\$21,250	\$21,250	\$21,250	\$21,250		
Date	12/31/2025								
Phase III Net New Employees	33				\$20,625	\$20,625	\$20,625	\$20,625	
Date	12/31/2026								
Total Net Employees Phase I - III	82	Total Payout	\$9,375	\$30,625	\$51,250	\$51,250	\$41,875	\$20,625	\$205,000

*The payment dates shall be March 1st following each measurement year.



COMPLIANCE

- AIS Enclosure Systems will submit an annual compliance report to show that the new jobs were created by December 31st of each proposed ramp up year.
- The company must meet 90% of their proposed job creation to receive any payout for that year.
- Incentive amounts are up-to amounts. If the company goes above and beyond their job creation estimates, the payout remains the same each year and does not accelerate.
- Additionally, the company will submit four quarter average employment figures to ensure that the previous year's jobs are retained.
- Once the City and County have confirmed compliance, the IDB will provide the incentive amount by March 1st of that year's compliance.





Economic Development in Chattanooga: Advancing a Shared Vision & Embracing New Tools



Action Plan

Winter 2023

Prepared by HR&A Advisors

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Introduction:

A shared vision for economic development in Chattanooga

In May 2022, the Chattanooga Mayor's Office released the One Chattanooga Strategic Plan, backed by a commitment to orient the City's investments and energy around the implementation of a roadmap rooted in deep community engagement that lays out the concrete steps to create a city in which all Chattanoogaans can thrive and prosper. Civic leaders from River City Company, the Chattanooga Chamber, and Chattanooga Tourism Company are ready to activate their expertise and resources to support the goals of the One Chattanooga plan by partnering in intentional and strategic ways with the City to spur smart and sustainable growth that benefits all Chattanoogaans.

In June 2022, civic leadership met to discuss how they could work together to advance the vision for a vibrant and equitable Chattanooga put forth in the One Chattanooga Plan. The group discussed what new tools and approaches are needed, and how they can support one another's work toward the One Chattanooga vision. The shared vision that emerged from this workshop is rooted in four commonly held commitments:

1. Economic development strategies should **support a "circular economy,"**¹ one that promotes reinvestment and wealth creation for Chattanooga's residents.
2. Economic development strategies should **reinforce Chattanooga's unique brand:** a city with easy and abundant access to green space, a hub for businesses that are focused on innovation and sustainability, and a city with cultural authenticity.
3. Economic development strategies should **prioritize the development of affordable and mixed-income housing.**
4. Economic development strategies should **draw from a standardized toolkit,** one that can be systematically applied across different project types, is depoliticized, and includes tools that are fully within the City's control to implement.

WORKSHOP ATTENDEES

- City of Chattanooga
 - Mayor Tim Kelly
 - Joda Thongnopnua
 - Jermaine Freeman
 - Sandra Gober
- Chattanooga Chamber
 - Charles Wood
- Chattanooga Tourism Company
 - Barry White
 - Susan Harris
- River City Company
 - Emily Mack
- *Facilitated by HR&A Advisors*

This workshop – and the four commonly held commitments that resulted from it – signal a new era of City and civic collaboration in Chattanooga. In this action plan, we present a set of tools, evaluated against these four shared priorities, that we believe could advance economic development collaboration in Chattanooga.

In October 2022, HR&A met with the new economic development leadership of Hamilton County. For the County, many of these same goals are seen as priorities; the County is particularly interested in an economic development approach that is transparent and standardized and will link people throughout the county to opportunity.

¹ A "circular economy" stands in opposition to economic models that focus on the more linear construct of growth-consumption-obsolence-disposal. In a circular economy, capital is reinvested and repurposed instead of disposed. The intention is to be less extractive and more sustainable. While this concept has been [primarily used](#) in the context of reducing the impact of climate change, it is extrapolated here to mean that growth will not just be a one-time boon that benefits outside developers and the lucky few in Chattanooga; instead, growth will be intentional: it will create local jobs and local ownership, it will produce dividends that can be reinvested in Chattanooga, and it will generate economic momentum that can be used to address long-standing inequities.

Context + Opportunities:

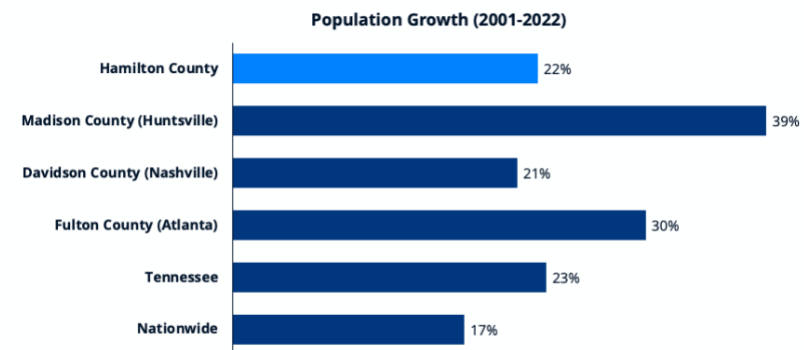
Leveraging growth to unlock new opportunities and shared prosperity

Chattanooga has seen impressive and meaningful growth over the past two decades.

A good quality of life, access to outdoor amenities, and proximity to major hubs such as Atlanta and Nashville have positioned Chattanooga as a desirable place to live. What was once known as the “dirtiest city” in America rapidly became one of the fastest growing mid-sized cities, adding 30,000 residents in the past 20 years – 20% citywide growth. As Chattanooga has grown, it has invested heavily in restoring its downtown and creating inviting parks and open spaces for residents to enjoy. The aquarium and riverfront access transformed downtown into an amenitized neighborhood and sparked an uptick in high-end residential development. Legacy employment sectors such as freight and manufacturing have sustained the city’s economy. The economy has also modernized in recent years with tech companies such as FreightWaves and other startups moving into the downtown innovation district. As the city has invested in its downtown, the tourism industry has flourished.

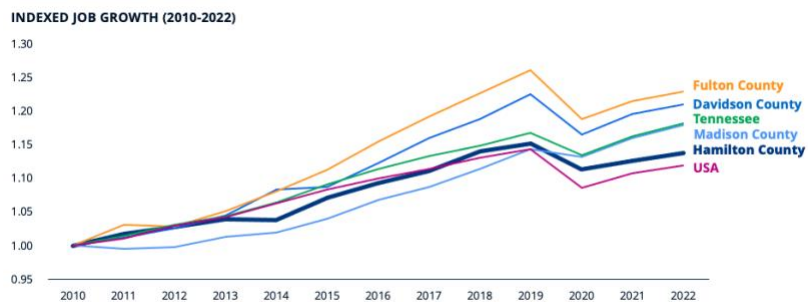
Select growth indicators:

Hamilton County is growing steadily - on par with statewide peers and above the national average.



Data source: Emsi

Job growth in Hamilton County has outpaced the national average but lags regional peers.



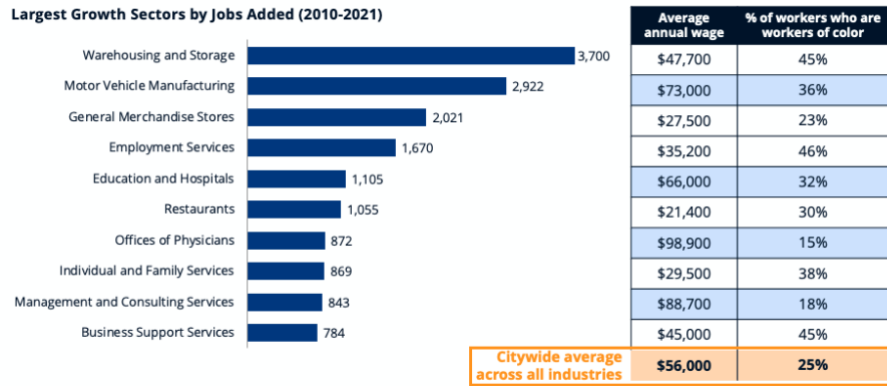
Data source: EMSI

While Chattanooga has been on an upward trend, the city is in many ways now at an inflection point. As the city has grown, so has inequity.

As One Chattanooga states, [“We still have Two Chattanoogas.”](#) Despite impressive growth and promise, Chattanooga is one of the worst cities in America in which to grow up poor, according to [research](#) conducted by *The New York Times*. How one fares in Chattanooga’s economy is still very much determined by the neighborhood in which they live and the color of their skin.

Select indicators of inequity:

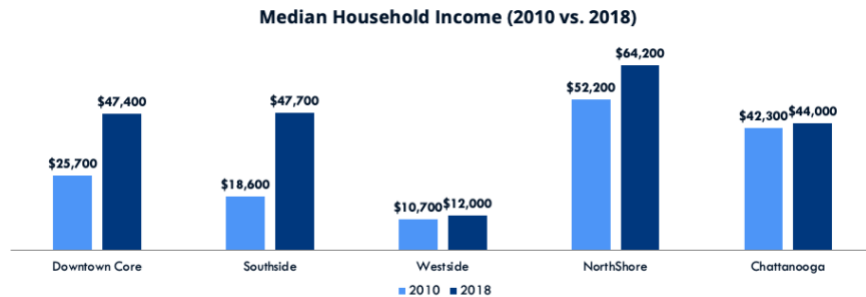
The highest-paying growth industries tend to be those with the fewest workers of color.



Many growth jobs require a post-secondary degree, while only 34% of the Hamilton County workforce holds a post-secondary degree.

High-priority employment sectors	Current jobs in Chattanooga	Growth in past five years	% of jobs that require a post-secondary degree
Engineering and production	37,000	14.8%	40%
Healthcare and medical operations	25,000	10.9%	92%
Logistics and operations	27,000	10.9%	42%
Software and information technology	5,000	1.4%	58%

Median incomes in the Downtown Core and Southside are growing significantly, while median income growth on the Westside has stalled.



Chattanooga has a once-in-a-generation opportunity to support inclusive growth through its robust pipeline of upcoming economic development projects.

Right now, the economic development pipeline in Chattanooga is significant.

- There are over 300 acres slated for reuse within five miles of downtown.
- This redevelopment could translate to over \$1.5 billion in potential private investment.
- There are thousands of housing units in the near-term development pipeline.
- There is sustained growth in the city's technology, medical, and education sectors, with significant new opportunities in electric vehicle manufacturing.

However, leveraging this economic development pipeline in a way that encourages shared prosperity and addresses longstanding disparities will require thoughtful strategies and collaboration. Growth will not be inclusive without intervention.

During the workshop in June 2022, City and civic leaders aligned on a few opportunities for thoughtful intervention:

- Most housing production over the past several years has responded to the demand for more luxury and market-rate units; in the coming months and years, the City and civic leaders are interested in new strategies to support the growth of affordable homes.
- The City and civic leaders are invested in keeping Chattanooga's unemployment rate low while thinking creatively about incentivizing more people to join the city's workforce – including through easier access to childcare and transportation – an important factor in luring growing companies to town.
- An increase in work from home has left downtown towers and office campuses vacant; City and civic leaders are interested in developing new strategies to bring them back to life.
- Given the sustained attention of the development community, City and civic leaders are eager to embrace creative financing and negotiation tools to get projects off the ground and unlock shared prosperity for all Chattanoogaans.

Action Plan:

Deploying new, tested economic development tools in Chattanooga

At the conclusion of the June 2022 workshop, City and civic economic development leaders aligned on the need to create four new high-priority economic development strategies – and to advance them through ongoing partnership.

1. Unlocking currently vacant or underutilized downtown sites.
2. Creating transparency and clarity for developers seeking public benefits – and positioning the City to negotiate when considering public benefits for developers.
3. Activating commercial corridors to support local entrepreneurs and build local wealth.
4. Incentivizing more companies to provide work-based learning and improve job access.

Each of these economic development strategies will require the development and use of new tools. In the following pages, we share initial steps to support the City, the County, and the civic sector in beginning to deploy these new tools in Chattanooga, as well as lessons learned from other cities that have effectively used these tools. For each tool, we assess alignment with the shared priorities that workshop participants articulated in summer 2022.

#1. UNLOCK CURRENTLY VACANT OR UNDERUTILIZED DOWNTOWN SITES

Context

The housing market is tight in Chattanooga: there has been a 15% increase in average rent and a 33% increase in citywide home values over the past decade. In addition, the pace of housing construction in Chattanooga (20% new housing unit growth since 2000) lags behind regional peers (33% in Huntsville and 34% in Atlanta). At the same time, the Riverfront District – once the centerpiece of Chattanooga’s urban revitalization – is perceived as overwhelmingly for tourists and in need of a refresh, and Chattanooga’s core downtown struggles with high vacancy amid the growth of remote work and the rising appeal of Southside and other districts.

City and civic leaders have committed to exploring every possible strategy to address the City’s affordable, mixed-income, and mixed-use housing needs, while injecting new life into Chattanooga’s downtown, including the Riverfront. One option: there is an abundance of surface-level parking lots, vacant sites, and underoccupied office properties downtown ripe for redevelopment and activation. However, current parking lot owners are not incentivized to sell their land as they see high returns on revenue with very little maintenance or operating expenses; meanwhile, conversion of office buildings comes with high costs and physical challenges that cannot be borne by new housing, especially mixed-income housing. Chattanooga has an opportunity to capitalize on the demand for downtown living and the broader need for more housing citywide by redeveloping these sites.

While Chattanooga has a history of using Tax Increment Financing (TIF) for large-scale plans, such as the South Broad development, there is no streamlined process to fund projects that could convert single sites, including surface-level parking and underutilized structures in the downtown core, into more productive uses, such as mixed-income or mixed-use housing. Property tax subsidy, which can be achieved through a TIF, is often required for projects to become realities. Chattanooga could benefit from a simple and replicable process to review and accept site-specific TIF funding with certain thresholds to remove the politics out of each funding request. Chattanooga could also benefit from a comprehensive parking strategy, so developers are not turned away by the burden of having to deliver parking onsite with each project.

There are several economic development tools available to the City and civic partners that could be leveraged to address these issues:

1. Acquire underused sites (at a premium to market value) to reposition them for development.
2. Tax underused sites (i.e. through an increased land tax or vacancy surcharge), which could incentivize parking lot owners to sell their land faster or for reduced amounts.
3. Offer tax incentives and/or density bonuses for underused sites to improve project economics for prospective buyers and increase market demand for the sites.
4. Construct district parking that defrays the cost of site-specific parking, thereby improving project economics similar to #3.

Because purchasing lots outright requires significant capital investment with uncertain future returns, and raising land taxes may face political obstacles, many municipalities turn to tax incentives, density bonuses, and district parking strategies to increase the development value of preferred site reuse and therefore enable buyers to adequately compensate the owners of surface parking lots and/or make building conversion projects economically feasible.

Success stories: how this tool has been effectively implemented elsewhere

Unlocking projects through Tax Increment Financing (TIF)

TIF is a commonly used tool across the South and across the country when costs to build parking or other infrastructure are prohibitive to development, or when the public sector seeks public-serving uses such as affordable housing but there is a financial gap the developers cannot fill. Major neighborhood investment projects such as Broadway Station in Denver, Nashville Yards in Tennessee, Lincoln Yards in Chicago, and the Bayfront development in Sarasota have required public subsidy and TIF. Single-site TIFs are also common to fund important projects rather than districtwide developments.

Clear policies that outline the processes for developers and the public will increase transparency, streamline the TIF application process, and free up funds sooner for priority developments. Some cities have also used TIF negotiations to secure additional public benefits from developers while also helping get their project off the ground. Both Rochester, MN, and St. Louis, MO, have a successful track record passing and utilizing TIF funds for downtown development.

St. Louis – TIF to support affordable housing

A recent example of TIF from St. Louis shows how the tool can be a powerful negotiating point. In 2018, the City of St. Louis approved a TIF commitment for the second phase of City Foundry, a 16.8-acre development, allowing the developer to put new taxes generated by the project toward construction costs. In 2020, the developer re-opened negotiations when they amended the development program, and the City secured its first Equitable Development Contribution of \$1.8 million toward the Affordable Housing Commission (AHC). The funds are restricted to support affordable housing preservation, maintenance, and residential services in the 17th Ward and neighborhoods north of Delmar Boulevard – adjacent to the site. The funds will provide housing assistance to homeowners from vulnerable populations (older adults, low-income households, and people with disabilities).

In St. Louis, TIF allocations require approval from the Board of Alderman and the TIF Commission, which empowers elected officials to represent their constituents' interests while negotiating directly with developers. The city was able to be in control of the TIF process and use their position to negotiate a good deal. City leadership and a clear set of asks positioned St. Louis and the developer for success.

Knoxville, TN – TIF to promote local reinvestment

A \$75 million investment – largely using taxpayer dollars – is going to be used to develop a multi-use stadium in Old City, Knoxville. Through intensive community engagement, labor partnerships, and City Council action, Knoxville has secured a wealth of commitments from developers to help ensure that this funding is reinvested in Knoxville's communities. Critically, these commitments include:

- A local hire preference for construction
- A guaranteed wage floor of \$15.50 per hour, exceeding the state's minimum wage of \$7.25
- Safety guarantees for workers that exceed the state's standards

The City and County are co-leading redevelopment efforts, and they formed a third-party sports authority to oversee the efforts. The project is only feasible through a TIF district because the upfront site and infrastructure costs could not be supported by future revenues from site development. The baseball team partnered with a private development group, the GEM Group, to help lead the planning and contribute \$100M of private funding. TIF district negotiations created a pathway for community and labor groups to advocate for more equitable contributions from the project. The Knoxville-Oak Ridge Central Labor Council became a key advocate during the negotiations. They were intent to make sure that money stays in the local economy.

ALIGNMENT WITH CHATTANOOGA'S SHARED VISION	<ul style="list-style-type: none"> • Within the City's control; does not require State approval • Promotes a "circular" economy, generating reinvestment and wealth creation for residents • Opportunity to reinforce a unique cultural brand
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Unlocking projects through density bonuses

Density bonuses permit developers to construct more units on a site than would normally be allowed by the underlying zoning code if the developer agrees to produce a set number of affordable units within the development or provide an alternative form of public benefit. This strategy has been used to encourage mixed-use, mixed-income, and affordable housing development across the country.

Austin, Texas

Austin has 10 density bonus programs, including a Downtown Density Bonus Program that incentivizes the creation of affordable housing. Through this program, at least half of the developments' qualifying density use must either be onsite affordable housing or a contribution to the city's Affordable Housing Trust Fund. To qualify, developers must comply with a set of [transparent community benefit standards](#), such as green building.

In 2019, Austin launched a new two-tier density bonus program called "Affordability Unlocked," which allows developers to select the level of affordable housing they want to develop on a specific site in exchange for a level of density benefits they can unlock. For example, if a certain percentage of units is affordable, developers can increase their base zoning height by 1.25 times or build up to six homes in a single-family zone. For higher levels of affordability, base zoning height increases by 1.5 times and developers can construct up to 8 homes per lot.

The State of Texas preempts mandatory inclusionary zoning (zoning regulations that require affordable housing in the event of a re-entitlement) – so all of Austin's density bonuses are voluntary incentives that developers can opt into.

ALIGNMENT WITH CHATTANOOGA'S SHARED VISION	<ul style="list-style-type: none"> • Within the City's control; does not require State approval • Promotes a "circular" economy, generating reinvestment and wealth creation for residents
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Unlocking projects through parking authorities

The other barrier to development, especially in downtowns, is that creating new parking for each newly developed project can be cost prohibitive. One path forward is to create district TIF boundaries and/or purchase agreements to fund shared parking facilities in central locations that serve multiple developments. Chattanooga already benefits from having a Chattanooga Parking Authority, a division of CARTA, that operates more than 4,000 parking spaces, including three structured parking garages, and has experience financing new facilities and improvements on the basis of parking revenue and in concert with the City and other public entities. Leveraging CARTA's expertise and authority to create parking solutions that enable development – and then waiving parking requirements for new development proximate to those spaces – could replicate strategies in cities such as Philadelphia, Yonkers, and Norwalk, where publicly funded or enabled garages have been critical to district transformation.

ALIGNMENT WITH CHATTANOOGA'S SHARED VISION	<ul style="list-style-type: none"> • Within the City's control; does not require State approval
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Action steps: How Chattanooga could adopt these tools

<p>PROPOSED APPROACH</p>	<p>In Chattanooga, we recommend:</p> <ul style="list-style-type: none"> • Creating a TIF template for single-site redevelopment based on common site challenges downtown • Exploring density bonuses that would improve downtown development economics • Exploring the use of district parking strategies to defray costs of private development or repositioning <p>For the TIF and density bonus strategies, we recommend the City of Chattanooga take the lead on implementation, with the Chamber and River City providing partnership and support.</p> <p>For the district parking strategies, we recommend that the City partner with CARTA to lead implementation, with River City providing partnership and support.</p>
<p>ESTIMATED BUDGET & STAFFING</p>	<p>Studies to inform inclusionary housing, density bonuses, and other development incentives typically range from \$75,000 - \$200,000. Local philanthropic partners are one vehicle to support these studies and policy formation.</p> <p>In addition to the cost of studies, the development and adoption of these three policies will also require:</p> <ul style="list-style-type: none"> • Staff time and legal costs to structure individual site TIFs or issue bonds for shared parking facilities • Bonding for capital costs for parking facilities (if they are approved)
<p>ADDITIONAL STUDY OR DECISION-MAKING NEEDED</p>	<p>The City could conduct or commission a study to develop these three policies, grounding them in thresholds and practices that have worked effectively in other cities and aligning them with local and state regulations in Tennessee. To structure these policies, the City will need a detailed real estate economic analysis to understand the level of support needed (whether via TIF, density bonus, or parking strategy) to unlock various categories of underused sites, including surface parking lots, vacant sites, and underused office properties, among others. This study should recommend a subsidy framework based on the specific public benefits the City would like to see, informed by outreach to property owners, developers, and community stakeholders. This study should also evaluate how the density bonus policy for the City of Chattanooga could generate significant momentum toward Mayor Kelly's priority to build affordable housing units and could help to fully capitalize the Mayor's affordable housing fund.</p> <p>Once the policies are adopted, we recommend that the City's offices of housing, city planning (given zoning implications), and economic development coordinate on the ongoing management of these policies – monitoring their effectiveness and making adjustments as needed to continue encouraging the conversion of underutilized properties into affordable and mixed-income housing.</p> <p>Adoption of both policies will likely require City Council approval.</p>

ROLES OF:	
<i>The City</i>	Hold primary responsibility for overseeing the process to establish TIF, density, and other guidelines, articulating the goals of these policies, and working with City Council to secure approval for the adoption of these policies.
<i>The County</i>	Publicize the program and help attract developers interested in leveraging these new tools.
<i>River City Company</i>	<ul style="list-style-type: none"> • Lead the study on these three policies and shape recommendations to the City on how to structure these policies to be most impactful. • Engage downtown property owners and developers to support deals that make use of these new tools. • Publicize the program and help attract developers interested in leveraging these new tools.
<i>The Chattanooga Chamber</i>	<ul style="list-style-type: none"> • Engage the business community and philanthropic sector to help secure additional needed funding for this program. • Publicize the program and help to attract developers interested in leveraging these new tools.
<i>Chattanooga Tourism</i>	Publicize the completion of projects that activate new spaces in the downtown to draw in tourists and local visitors.
BENEFITS AND POSSIBLE RISKS OF EMPLOYING THE TOOL	<p>This tool has the potential to decrease the number of surface parking lots and vacant sites and buildings in the downtown corridor and produce new development that advances the City's goals. Most notably, the density bonus could help the city meet its affordable housing goals and produce a new mechanism to help capitalize the Mayor's Affordable Housing Trust Fund. The TIF policy will help reduce barriers to development for developers interested in helping the City meet its housing goals.</p> <p>This approach presents several possible risks, including:</p> <ul style="list-style-type: none"> • If the policies adopted by the City are too rigid to apply to a varied mix of underused sites, they may miss the full potential to incentivize site reuse • Offering subsidies to unlock specific sites could raise expectations of subsidy among developers of sites that do not need public support. <p>Both of these risks can be managed through (1) rigorous study to inform policy creation, and (2) clear and transparent communication about the policy standards once adopted.</p>
PROPOSED STEPS TO BRING THE PUBLIC ALONG	<p>According to workshop participants, it will be important to ensure the public and the City Council understand why special actions are needed to make certain development projects feasible and/or to motivate developers to include public benefits such as affordable housing in their projects. As these new policies are being shaped and adopted, we recommend an education campaign - starting with the Council and including County officials and major community organizations - to demystify the development process and put in context the range of incentives needed to deliver public benefits, including examples from peer municipalities.</p> <p>For these three tools, we also recommend that this education campaign highlight the potential for significant benefits that enjoy broad-based public support: (1) an activated downtown that is fun to visit and supports the regional economy; (2) mixed-income, mixed-use housing; (3) new economic opportunities that produce funding streams that advance the City's equity goals.</p>

#2. CREATE TRANSPARENCY AND CLARITY FOR DEVELOPERS SEEKING PUBLIC BENEFITS, AND POSITION THE CITY TO NEGOTIATE WHEN CONSIDERING PUBLIC BENEFITS FOR DEVELOPERS

Context

Regional and national developers are increasingly interested in the Chattanooga real estate market, drawn by lower land prices and development costs relative to Nashville, Atlanta, and other surging regional markets, as well as the city's steady population and economic growth and widely regarded quality of life. Without thoughtful intervention, Chattanooga could miss an opportunity to translate this influx of economic investment into new opportunities for shared prosperity for all Chattanoogans. Recent experiences – such as the redevelopment of Unum's parking lots downtown – represent the no-action scenario: these developments have followed the market and have delivered luxury rental and ownership housing inaccessible to most Chattanoogans.

The City has already thought deeply about its own priorities for future economic investment and articulated them in the One Chattanooga plan. The City and its civic partners now have an opportunity to translate the vision of One Chattanooga into tangible action items and "asks" from developers in exchange for land use entitlements, use of public land, tax abatements, or public infrastructure improvements. Asks such as minimum amounts of affordable housing, MWBE participation in contracting, and local hiring could help create a more equitable and resilient local economy.

Currently, each development seeking public support is subject to a one-off negotiation, in which the public's interest is tied to different concessions based on the development site and developer. This can lead to confusion and missed opportunities. With numerous prominent sites – including the Bend, the Lookouts Stadium, the TVA Campus, the BlueCross BlueShield corporate campus, and numerous downtown sites owned by the City and civic partners – ripe for redevelopment and reuse, the City has an opportunity to establish clear guidance around the minimum package of public benefits required from these developments in exchange for public support.

Success stories: how this tool has been effectively implemented elsewhere

Tropicana Field – A new standard in community-serving development

Tropicana Field was once a predominantly African American community known as the Gas Plant neighborhood in the center of St. Petersburg, Florida. The construction of I-275 and I-175 in the 1960s to 1970s displaced and isolated Gas Plant from surrounding neighborhoods. After decades of site clearing through urban renewal programs, the neighborhood became the site of a redevelopment plan with a Major League Baseball stadium constructed in 1990. Today, Tropicana Field is home to the Tampa Bay Rays, surrounded by 80+ acres of parking.

As the stadium reaches the end of its useful life, the City (which owns the land), is leading a public RFP process to re- envision the site, seeking master developers with public benefits as a leading criterion for selection. The City led a community engagement process to inform the 21 Guiding Principles of Development, which aimed to center equity and evoke an element of restorative justice through the redevelopment. [Public benefits](#) sought included a minimum commitment to affordable housing

SUMMARY COMPARISON: Community Benefit Commitments of the Two Finalist Developers for Tropicana Field

June 9, 2022 Release 1

By Gypsy C. Gallardo, CEO, Power Broker Media Group & Urban Market Analytics



within the development, a commitment to use local, minority owned developers, and a local hire minimum threshold. The RFP was focused on attracting a mix of value-creating uses and delivering on community needs. An 18-month evaluation of RFP responses culminated in a preliminary selection of a master developer in December 2021. To provide transparency into the process, proposals and the evaluation of the shortlisted proposals were published on the City's website. The feasibility of each program, the financial offer, and the community benefits package were all presented in easily digestible formats for the community to see. The evaluation process also weighted the commitments of community benefits of equal importance to the program and financial terms.

The initiative was led and run by the Mayor's Office of Economic Development by two dedicated staff members. The City Council had to approve the initial RFP and then codify the Mayor's selection with a vote. As an incentive to developers, the city stated upfront that they were willing to establish a TIF to capture and reinvest \$75M to support the project. This allowed for developers to clearly know the city's public funding commitment from the start, along with benefits priorities as codified in the 21 Guiding Principles. As the RFP was released prior to COVID, the new mayoral administration has re-released the RFP with the same ethos. There were three community engagement sessions leading up to the release with the goal of addressing even more community needs brought to light from COVID, with master developer selection now underway.

<p>ALIGNMENT WITH CHATTANOOGA'S SHARED VISION</p>	<ul style="list-style-type: none"> • Within the City's control; does not require State approval • Promotes a "circular" economy, generating reinvestment and wealth creation for residents • Opportunity to reinforce a unique cultural brand
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Asheville, NC – Regulating minimum standards for public benefits

In 2021, the City and City Council in Asheville adopted regulations that mandate – in a fully transparent manner – the minimum level of public benefits that hotel developers must offer. These standards are published in a [Public Benefits Table](#) that matches the level of public benefit to a project's size and location. The City has been transparent about its goals: transparent public benefit standards are intended to leverage development to advance the City's goals and meet community needs, while also protecting against negative impacts of development.

Hotel developers can select from among community benefits, including:

- Donating to a City affordable housing or reparations fund.
- Adaptive reuse of a historic building.
- Committing to living wages, above the minimum wage threshold.
- Committing to contracting with local women- and minority-owned businesses.

Among these public benefits, the City currently prioritizes affordable housing and reparations – and therefore requires that at least 50% of the benefits that developers offer to meet the City's standards must come from these two categories.

These regulations were intentionally generated by the City and Council to create transparency and predictability in the development process. The Public Benefits Table also encourages expediency and efficiency: if a developer exceeds the minimum standard of public benefits, they can unlock expedited staff-level review of their project and avoid full City Council review.

Action steps: How Chattanooga could adopt this tool

<p>PROPOSED APPROACH</p>	<p>In Chattanooga, we recommend that development and implementation of this tool be led by the City's Office of Economic Development. This will ensure that the transparent set of community benefit standards developers need to meet in exchange for public subsidy are implemented consistently and aligned with the goals of the One Chattanooga plan. To accomplish this, we recommend translating the One Chattanooga plan into a discrete list of public priorities (e.g., no less than a set percentage of affordable units or M/WBE participation) and illustrative examples (e.g., setting aside a specific portion of retail space for new businesses incubated through the City's local entrepreneurship program).</p> <p>Setting these standards could be an opportunity for partnership between the City and the County since more deals could involve tax breaks from both entities and support from the County-led development authority or other financing entities.</p>
<p>ESTIMATED BUDGET & STAFFING</p>	<p>We recommend that development of these standards involve a meaningful opportunity for community input, along with policy/precedent research and detailed financial analysis. Should the City decide to commission this work, the budget would likely be between \$100,000 and \$250,000, depending on the scope of outreach and level of detail of the standards.</p> <p>Although the City's guidelines should set clear expectations and minimum standards for developers, finalizing the terms of each deal will still require staff time to negotiate terms based on the unique attributes of each project. Implementation will likely require at least one staff member from the City's Office of Economic Development to hold relationships with developers and negotiate the final packages.</p>
<p>ADDITIONAL STUDY OR DECISION-MAKING NEEDED</p>	<p>To develop the community benefits standard, we recommend that the City conduct or commission a study to draft the standards, align them with regional and national thresholds that developers have accepted, and ensure the standards comport with local and state law. Once the standards are developed, they may require City Council approval to be adopted as official City policy.</p>
<p>ROLES OF:</p>	
<p><i>The City</i></p>	<p>Hold primary responsibility for designing and implementing the policy, including commissioning a study to develop the standard set of community benefit thresholds, transparently broadcasting these standards to developers, and negotiating the final terms of each deal.</p> <p>The City will also be responsible for working with the City Council to secure adoption of the community benefit standards as official City policy.</p>
<p><i>The County</i></p>	<p>Ideally, the County and City will develop standards together, as final deals could involve tax breaks from both entities.</p>
<p><i>River City Company</i></p>	<ul style="list-style-type: none"> • Engage the business community and philanthropic sector to help secure additional needed funding for the creation of this policy, as needed. • Publicize the program and help to attract new developers and support deals.
<p><i>The Chattanooga Chamber</i></p>	<ul style="list-style-type: none"> • Publicize the program and help to attract new developers and support deals.

<i>Chattanooga Tourism</i>	<ul style="list-style-type: none"> Publicize the program and help to attract new developers and support deals.
<p>BENEFITS AND POSSIBLE RISKS OF EMPLOYING THE TOOL</p>	<p>This tool has the potential to produce both efficiency and equity. Efficiency because the City will be able to spend less staff time negotiating the terms of subsidy for each development; and equity because these standards will help to align all development in Chattanooga with the goals of the One Chattanooga plan. In addition, setting clear and transparent guidelines may attract additional private investors to Chattanooga, knowing their own negotiations will be streamlined and predictable.</p> <p>This approach risks ineffectiveness if the standards are not attuned to regional and national best practices, informed by community input, and compliant with state law. From an economics standpoint, there is a risk that thresholds that are too aggressive could make major developments infeasible or disincentivize investment in Chattanooga. Overly aggressive thresholds also risk State intervention. As such, we recommend a robust study and meaningful community engagement process to develop standards that will work.</p>
<p>PROPOSED STEPS TO BRING THE PUBLIC ALONG</p>	<p>This program could be accomplished with relatively modest investment, and we recommend publicizing this – along with the potential to explicitly, publicly, and uniformly tie new development in Chattanooga to tangible wins for residents and progress on equity.</p>

#3. ACTIVATE DOWNTOWN AND NEIGHBORHOOD COMMERCIAL CORRIDORS

Context

Downtown and neighborhood commercial corridors in Chattanooga, like in many other cities across the county, have struggled during the COVID-19 pandemic and have not bounced back to their full vibrancy and potential. Downtown, office workers have not come back in full force since the COVID-19 pandemic, and while tourism has largely rebounded, business travel has not yet bounced back and is negatively affecting the hospitality industry. While some Main Street corridors and neighborhoods outside of the downtown core have seen a resurgence of foot traffic and activity, as COVID-19 changed people's preference for working and shopping closer to home, there remains a need to further activate "village nodes" across Chattanooga's neighborhoods, and multiple neighborhood corridors have longstanding vacancy issues that predate the pandemic.

Citywide, small business owners need support as they recover from the pandemic. Activated commercial corridors are not only beneficial to business owners but are also vital to attracting residents, visitors, and office workers; supporting resident needs; sustaining Chattanooga's economy; and supporting jobs. Small business support programs right now are mainly focused on business promotion through the Chattanooga Chamber and do not yet address commercial corridor vibrancy or vacancy.

Opportunity to unlock shared prosperity: Mayor Kelly's administration has made intentional efforts to support entrepreneurs of color and close the longstanding racial wealth and opportunity gap, most recently through a [\\$2.9 million investment](#) using American Recovery Plan Act funding. This investment includes:

- \$1.4 million to develop a City-led minority business resource center to provide technical assistance and access to capital for minority entrepreneurs.
- \$800,000 for [CO.LAB](#) to help develop a new Founder's Fund that will provide direct investments to help scale minority-owned startups and small businesses.
- \$250,000 to [the Net Resource Foundation](#) to help revitalize the long-neglected Alton Park business district.
- \$250,000 to [RISE](#) and \$200,000 to [LAUNCH](#) to accelerate minority-owned startups in the culinary arts industry through development of a teaching kitchen and kitchen incubator.

Aligned with these priorities, activating commercial corridors by creating new opportunities for local small businesses presents an opportunity to accomplish two things: downtown and neighborhood commercial corridor vibrancy and new wealth-building opportunities for residents who have historically been marginalized from economic growth.

Other cities have been successful in creating innovative programs to activate their downtown and neighborhood commercial corridors while also creating new opportunities for local small businesses and entrepreneurs. For example, Detroit and Memphis have launched programs through their economic development offices to help small businesses flourish and help landlords activate vacant retail spaces. Below are the key features of these programs and action steps Chattanooga can take to implement a similar strategy.

Success stories: how this tool has been effectively implemented elsewhere

Memphis: Open on Main

The Downtown Memphis Commission (DMC) launched [Open on Main](#), a pop-up retail business incubator, in 2016 to fill vacant retail spaces that were driving away visitors. The program supports small businesses and entrepreneurs by providing an opportunity for them to market their goods to build brand identity and test their business concept without investing in a ground floor retail space. Simultaneously, the program activates vacant ground floor spaces in Downtown Memphis with pedestrian retail, helping local landlords keep their spaces filled. The DMC leases space from landlords and property owners for \$750/month and provides modest space upgrades. They also pay for utilities and wi-fi to create turnkey occupancy for local businesses. The DMC leases have historically covered two downtown properties for one-year leases (often renewed for the same space).



The DMC is the city's downtown economic development organization. The DMC is funded by an assessment on commercial property in the Central Business Improvement District (CBID), which is reinvested into funding incentives such as "Open on Main" and activations designed to support the growth of both Downtown's population and appraised commercial property values. The overall DMC budget is \$90M distributed across its programming. DMC staff are responsible for reaching out to property owners with known vacant space to recruit them to the program (this is done ad-hoc as staff have excess capacity). Additionally, DMC staff are responsible for reviewing applications on rolling basis from prospective retail tenants who sign leases on a month-to-month basis. In an interview, DMC staff shared with HR&A that if they had a larger budget and more staff capacity to support this program, they would double down on offering participating businesses additional help with marketing and revenue plans to help them launch permanent businesses once they have completed their rotation in the program's temporary space.

<p>IMPACT</p>	<ul style="list-style-type: none"> The program has seen impressive success: it has supported 39 store operators over five years with 80% M/WBE participation.
<p>ALIGNMENT WITH CHATTANOOGA'S SHARED VISION</p>	<ul style="list-style-type: none"> Within the City's control; does not require State approval Promotes a "circular" economy, generating reinvestment and wealth creation for residents Opportunity to reinforce a unique cultural brand

Detroit: Motor City Match

Detroit has created a similarly popular program called [Motor City Match](#), which connects new and expanding businesses with services and space to grow, providing them with the funding and tools to thrive. Detroit's City Council recently approved \$15 million in American Recovery Plan funding to double the grants provided by this program, which has helped 138 entrepreneurs open their brick-and-mortar businesses

The program has four goals:

- Create economic mobility.
- Distribute program resources equitably with a focus on low to moderate income entrepreneurs.
- Create jobs for underserved communities.
- Increase access to capital for MWBEs.



The program helps businesses at many stages from early business formation, to finding space for businesses, providing technical assistance and subject-specific workshops. Businesses are placed on one of two types of tracks: Financial assistance or technical assistance, with four program awards in each track category, including:

- **Plan** – one-on-one consulting, classes and workshops, and access to technical assistance for up to 15 entrepreneurs seeking to refine, formalize, and become transactional with a business idea.
- **Develop** – one-on-one consulting, classes and workshops, access to technical assistance and professional services for up to 25 businesses seeking to develop their idea, create a plan for growth, and choose an appropriate location for their next phase of development.
- **Design** – one-on-one consulting, classes and workshops, access to technical assistance and professional services for up to 10 businesses that have secured a location, settled on an appropriate growth plan, and need to create a design and program specific to that location.
- **Cash** – Up to \$500,000 in grants and loans for up to 15 projects that have secured a location, settled on an appropriate growth plan, and created a design and program specific to that location. The maximum grant award is \$100,000 per project. Businesses must have money ready to invest, whether it's their own equity, financing, or both. Loans are facilitated through Motor City Match lending partners.

The Detroit Economic Growth Corporation (DEGC) administers Motor City Match on behalf of the City of Detroit. Staff are responsible for identifying vacant storefront spaces through DEGC's broader work with commercial corridors; reviewing applications on a quarterly basis; and (once businesses complete technical assistance and are ready for brick-and-mortar space) matching businesses with retail spaces. Staff must therefore be familiar with a range of topics including, business financial planning, business regulatory requirements, business growth, and real estate.

Funding for support services comes from the U.S. Department of Housing and Urban Development Community Development Block Grants (CDBG) program. The program also receives support from Bank of America, Fifth Third Bank, Ford Foundation, Fred A. and Barbara M. Erb Foundation, Hudson Webber Foundation, JPMorgan

Chase & Co., Knight Foundation, The Kresge Foundation, New Economy Initiative, and the W.K. Kellogg Foundation.

IMPACT	<ul style="list-style-type: none"> • After 19 rounds, Motor City Match has served 1,540 businesses with \$9.1 million in grant funds.
ALIGNMENT WITH CHATTANOOGA'S SHARED VISION	<ul style="list-style-type: none"> • Within the City's control; does not require State approval • Promotes a "circular" economy, generating reinvestment and wealth creation for residents • Opportunity to reinforce a unique cultural brand

Action steps: how Chattanooga could adopt this tool

PROPOSED APPROACH CAPACITIES NEEDED	<p>In Chattanooga, we recommend that River City Company hold responsibility for implementing this program, leveraging their commitment to activating the core downtown and relationships with landlords and community organizations in neighborhoods across Chattanooga who may be willing to participate in this program.</p> <p>This program should be structured as a close partnership with the City, to integrate its recent investments in entrepreneurship and closing the racial opportunity gap into this program, and with the Chattanooga Chamber, which can contribute its business support and incubation services and property owner relationships.</p>
ESTIMATED BUDGET & STAFFING	<p>We estimate that this program will require \$1 million in its first year and \$500,000 in subsequent years to secure 10 downtown spaces for this program, either through discounted rent to landlords or direct support to small business lessees. This budget assumes \$50,000 per retail space per year (\$1 per square foot per month; 2,000 average square feet per space; and a 1.5 multiplier for occupancy costs) as well as an equal amount to make improvements to spaces needed to support this program.</p> <p>This budget assumes that the City could leverage its recent \$2.9 million investment in entrepreneurs of color to provide the technical assistance and support to participating entrepreneurs.</p>
ADDITIONAL STUDY OR DECISION-MAKING NEEDED	<p>To effectively launch this program, we recommend studies that include a vacancy survey and initial discussions with property owners; an outreach and marketing plan to equitably reach participants; development of a curriculum for the incubation program; and the development of a more detailed budget and fundraising strategy.</p> <p>We recommend that River City dedicate a half-time employee to programmatic design and management and leverage other staff to help identify and secure government funding sources – such as U.S. Department of Housing and Urban Development Community Development Block Grants – that could be used to support this program. We recommend that the City dedicate a point person within the Office of Economic Development to support this program.</p>
ROLES OF:	
<i>The City</i>	<p>In partnership with the Chamber and community-based organizations:</p> <ul style="list-style-type: none"> • Provide ongoing technical assistance and support to entrepreneurs.

<i>The County</i>	<ul style="list-style-type: none"> • Possibly contribute public funding to support leasing storefronts. • Publicize the program and help to attract a customer base for participating entrepreneurs.
<i>River City Company</i>	<p>Hold primary responsibility for designing and implementing the program, including:</p> <ul style="list-style-type: none"> • Identify participating entrepreneurs, in partnership with the City and the Chamber. • Publicize the program and help to attract a customer base for participating entrepreneurs. • Engage downtown property owners and help to secure their interest in participating in this program. • Gather data on impact and reporting programmatic successes to the public. • Identify public, private, and philanthropic funding that will be devoted to leasing downtown storefronts. • Publicize the program and help to attract a customer base for participating entrepreneurs.
<i>The Chattanooga Chamber</i>	<ul style="list-style-type: none"> • In partnership with the City, provide ongoing technical assistance and support to entrepreneurs. • Engage the business community and philanthropic sector to help secure additional needed funding for this program. • Publicize the program and help to attract a customer base for participating entrepreneurs.
<i>Chattanooga Tourism</i>	<ul style="list-style-type: none"> • Publicize the program and help to attract visitors and a customer base for participating entrepreneurs.
<p>BENEFITS AND POSSIBLE RISKS OF EMPLOYING THE TOOL</p>	<p>This tool has the reinvigorate downtown and neighborhood corridors. By drawing foot traffic, Chattanooga can build on decades of consistent work to revitalize its downtown and “village nodes” – and may be able to provide a helpful counterbalance to recent attention and investment that has been focused on the Bend and the Westside. This activation will in turn increase downtown sales, City and County tax revenues, and the ability to reposition vacant and underutilized sites downtown.</p> <p>Assuming the intention of this program will be to incubate businesses that, after a year or two, are able to fly on their own and rent space either downtown or in other Chattanooga neighborhoods, this program may have the additional benefits of (1) increasing the base of local businesses that generate wealth for Chattanoogaans from historically marginalized backgrounds and (2) creating new demand for downtown space through the incubation of successful businesses. Tourists seek authentic experiences; they would likely rather patronize a small local business that Chattanoogaans themselves support, rather than a national chain they could visit in any City. Incubating businesses that represent Chattanooga and locating them in commercial corridors will improve the tourism experience, feeding back into the local economy and tax revenues.</p> <p>Successful implementation will require targeted marketing to draw customers and residents downtown and into “village nodes” – and to connect this program to Chattanooga’s unique cultural authenticity. It will also require ongoing support to help ensure that participating entrepreneurs have the tools they need to succeed. If, after two years, incubated businesses are not able to operate independently, RCC and the City may face the choice of continuing to subsidize their rent (which would mean not welcoming new participants) or vacating the participant, knowing that this could mean that their business would fail.</p>

<p>PROPOSED STEPS TO BRING THE PUBLIC ALONG</p>	<p>In public messaging about this program, we recommend highlighting the relatively modest public investment required to operate this program along with the potential for significant benefits that enjoy broad-based public support: (1) an activated downtown that is fun to visit; (2) homegrown businesses that celebrate Chattanooga’s unique culture; (3) new economic opportunities that move the city toward One Chattanooga, in which all residents can thrive.</p>
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#4. INCENTIVIZE MORE COMPANIES TO PROVIDE WORK-BASED LEARNING AND IMPROVE JOB ACCESS

Context

Despite technically low unemployment citywide and sustained population growth, many Chattanoogaans – and an outsized portion of Black Chattanoogaans – earn less than family-sustaining wages and struggle to support their households. Chattanooga has been successful at attracting major employers in numerous growth industries – including technology, manufacturing, logistics, and healthcare – that pay above-average wages and offer opportunities for career advancement, but without careful intervention on the part of both employers, local government, and civic partners, it is not at all certain that the Chattanoogaans in greatest need of improved earnings will secure those jobs, or that major public investment in attracting these employers will meaningfully improve the livelihoods of Chattanoogaans from historically disinvested communities.

Greater effort is needed to a) motivate Chattanoogaans who would benefit from these jobs (many of whom are employed but earn less than they could) to seek out jobs in sectors/roles that are foreign to them, b) provide the wraparound support needed to enable these Chattanoogaans to take part in necessary training (e.g. stipends, childcare, transportation, coaching), and c) work with employers to provide ongoing support to boost retention, by looking beyond compensation to help ensure that these workplaces are inclusive and treat their employees well.

Since employers are often focused on the immediate need to fill positions, and training providers such as community colleges are often overstretched and may struggle to communicate with employers, having an intermediary that can coordinate with employers, providers, and community organizations that know prospective workers best is an increasingly successful model to bridge connections between economic need and economic opportunity.

Success stories: how this tool has been effectively implemented elsewhere

Rework America Alliance

The Rework America Alliance, a national approach operational in cities across the country, helps people from low-wage roles move into good jobs that provide livable wages and career growth. The model involves collaboration among civil rights organizations, nonprofits, private sector employers, labor unions, and educators and is premised on expanding the career opportunities of millions of workers who have developed skills through experience but do not have a bachelor's



degree – particularly people of color and women who face systemic barriers to job opportunities. The model was first deployed in Indiana and Rhode Island, where low unemployment rates masked a segment of the workforce that was chronically underemployed. The model involves two strategies:

- Intensive, ongoing support from career coaches whose support is tailored to address specific challenges and opportunities affecting Black, Latino, and low-income communities; and
- Outreach to employers and business groups, in collaboration with local partners, to open access to good jobs by driving the adoption of inclusive sourcing and talent management practices that focus on skills rather than degrees and reducing bias in hiring.

Housed within the Markle Foundation, the model is backed by a study of the job histories of 29 million people across more than 800 occupations to look at how to realize the potential of the more than 5.8M workers from low-wage roles currently underemployed and without a college degree. The model employs actionable steps that can be taken to help these workers to return to work in better roles.

The Rework America Alliance’s tools can be used by any city to develop an intermediary with the partnerships necessary to provide end-to-end support that connects disengaged workers with good-paying jobs. With funding from JPMorgan Chase, the initiative [recently expanded](#) to five new cities.

Colorado – Laying the foundation for success in high-growth industries

The CareerWise model, which began in Colorado and has since expanded to five other regions across the country, functions as a proven intermediary in which students are offered opportunities to pair in-classroom learning with on-the-job apprenticeships. The model was designed with two aims: to address the skilled worker shortage and the “the unrealistic expectation that our nation’s schools must prepare students for today’s in-demand jobs without the involvement of industry.” The model places diversity, equity, and inclusion at its core and aims to increase equity and prosperity for students of all backgrounds and for local employers. The program serves a diverse range of students in a three-year program that aims to teach students both hard and soft skills required for success in high-performing, rapidly growing industries. At the conclusion of the program, students have:



- Meaningful work experience
- A nationally recognized industry certification
- A professional network
- The opportunity to earn debt-free college credit

The program is run independently, in [close partnership](#) with the local department of education, universities and technical schools, and employers. National philanthropies funding the work include Bloomberg, the Bill and Melinda Gates Foundation, the Markle Foundation, and the Walton Foundation.

<p>ALIGNMENT WITH CHATTANOOGA'S SHARED VISION</p>	<ul style="list-style-type: none"> • Within the City's control; does not require State approval • Promotes a “circular” economy, generating reinvestment and wealth creation for residents • Opportunity to reinforce a unique cultural brand
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Action steps: How Chattanooga could adopt these tools

<p>PROPOSED APPROACH</p>	<p>In Chattanooga, we recommend two things:</p> <ul style="list-style-type: none"> • The Chattanooga Chamber conduct or commission a study to determine how it could most effectively serve as an intermediary between the County's education system, the City's workforce and economic development programming, and large employers interested in basing their operations in Chattanooga. This study could produce a set of agreements and workflows between the City, the County, local technical schools and universities, and the Chamber that could position Chattanooga to create a responsive pipeline that helps to attract talent and match workers with emerging opportunities. • The City and County each conduct or commission a review of resources, programs, and planned investments that could be leveraged to incentivize existing residents to join the workforce and new workers to move to Chattanooga. The outcome of these reviews would be an inventory of programs, services, planned investments, and public transportation plans and a set of recommendations about how to leverage existing resources to support the shared goal of incentivize work-based learning in Chattanooga.
<p>CAPACITIES NEEDED</p>	<p>We recommend that the Chamber dedicate at least .5 FTE to manage the study on how to structure a talent pipeline intermediary, and that the City and the County each dedicate .5 FTE to manage the review of existing resources, programs, and planned investments that could be leveraged to incentivize work-based learning. Completing this review will likely entail some limited staff time from City and County agencies to participate in interviews / complete surveys.</p>
<p>ESTIMATED BUDGET</p>	<p>Commissioning two studies on how to create a talent pipeline intermediary and align City and County assets toward incentivizing work-based learning will likely require \$100,000 - \$200,000 to analyze opportunities and develop recommendations. The City and Chamber could partner with philanthropic and business partners to cover some of the cost of both studies.</p>
<p>ROLES OF:</p>	
<p><i>The City</i></p>	<p>Hold primary responsibility for structuring a review of existing City resources, programs, and planned investments that could be leveraged to incentivize existing residents to join the workforce and new workers to move to Chattanooga.</p>
<p><i>The County</i></p>	<p>Hold primary responsibility for structuring a review of existing County resources, programs, and planned investments that could be leveraged to incentivize existing residents to join the workforce and new workers to move to Chattanooga.</p>
<p><i>River City Company</i></p>	<p>Once the talent pipeline intermediary is developed, encourage downtown employers to use it and publicize its existence to attract new employers to Chattanooga.</p>
<p><i>The Chattanooga Chamber</i></p>	<ul style="list-style-type: none"> • Lead the study to develop the talent pipeline intermediary and then assume responsibility for serving as the talent pipeline intermediary, based on the structure recommended in the study. • Once the talent pipeline intermediary is developed, encourage employers to use it and publicize its existence to attract new employers to Chattanooga.

	<ul style="list-style-type: none"> Engage the business community and philanthropic sector to help secure additional needed funding for these studies and for ongoing implementation.
<i>Chattanooga Tourism</i>	<ul style="list-style-type: none"> Once the talent pipeline intermediary is developed, encourage employers to use it and publicize its existence to attract new employers to Chattanooga
BENEFITS AND POSSIBLE RISKS OF EMPLOYING THE TOOL	<p>Chattanooga is starting from a strong position: unemployment is low and private employers are willing to cover the costs of on-the-job training. With greater coordination, planned public investments in transportation and affordable housing can be leveraged to incentivize new workers to seize opportunities in Chattanooga.</p> <p>This will require ongoing action from the City and County to identify how its current and planned investments and programs can be used to encourage existing residents to join the workforce and attract new workers to move to Chattanooga. It will also require the Chamber to build a system that is flexible and responsive, and able to link workers to emerging opportunities.</p>
PROPOSED STEPS TO BRING THE PUBLIC ALONG	<p>Developing a thoughtful and effective intermediary in Chattanooga will require a serious investment and ongoing commitment. To bring the public along, it may be helpful, in public messaging about this program, to demonstrate how disparate economic conditions and opportunities are today, and the meaningful growth in earnings available if Chattanooga can help low-wage workers (and the next generation) transition from low-paying jobs without advancement potential into positions with a real career track. The return on investment is strong if one factors in all the costs associated with poverty – building new pipelines to wealth and opportunity in Chattanooga can, therefore, justify public subsidies to attract large employers to Chattanooga and build a thoughtful intermediary.</p>

Conclusion

Chattanooga's City and civic leaders are ready to deepen their coordination and work toward a shared set of goals. The City has oriented its investments and energy around the implementation of Mayor Kelly's One Chattanooga strategic plan, a roadmap rooted in deep community engagement that lays out the concrete steps to create a city in which all Chattanoogaans can thrive and prosper. Civic leaders from River City Company, the Chattanooga Chamber, and Chattanooga Tourism Company are ready to activate their expertise and resources to support the goals of One Chattanooga by partnering in intentional and strategic ways with the City to spur smart and sustainable growth that benefits all Chattanoogaans.

The actions recommended in this action plan will enable the City and its civic partners to lay the foundation for economic development that produces more affordable homes, more wealth-generating opportunities for residents, new workers ready to seize opportunities in growing industries, and meaningful progress on equity.



Capital Funding for Mid-Sized Cities & Counties

Understanding Current Needs
and Future Opportunities

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Executive Summary

Comparative Data on Chattanooga

- Census of Governments capital outlay estimates show that Chattanooga tends to spend less (per capita) on capital projects compared to other municipalities with over 100,000 residents — both in the South and nationwide.
- Historically, Chattanooga has relied more on a pay-as-you-go approach compared to other cities, demonstrated by the city's relatively low debt ratio, which has helped maintain the AAA bond rating, but leaves room — if desired — for the issuance of bonds if necessary for larger capital projects.
- Chattanooga generally lacks dedicated funding streams for capital projects, with the exception of enterprise funds and revenue bonds. Comparable governments in Alabama, Georgia, North Carolina, and Tennessee have some dedicated funding stream (excluding enterprises) for capital projects that makes capital improvement planning more predictable from year-to-year.

Alternative Funding & Financing Solutions

- A number of innovative funding and financing approaches have been developed in recent years, as well as potential options currently authorized under Tennessee state law, and other mechanisms that would require authorization by the Tennessee General Assembly. Some of these options are highlighted below, categorized as current, medium, and longer-term alternative revenue strategies, based on the time to implementation. These alternatives are designed to increase existing revenue sources and/or earmark funds for capital projects beyond existing general fund revenues, traditional bonds and grant funding, and pay-as-you-go approaches.

Currently Available Alternative Revenue Strategies

- Increasing property tax rates, and allocating a certain percentage to capital projects
- Implementing a wheel tax in Hamilton County
- Increasing the \$5 motor vehicle license fee in Chattanooga
- Continued strategic use of tax increment financing and business improvement districts
- Utilizing more of the city's debt limit to finance projects through bonds
- Authorizing bond anticipation notes where faster up-front funding would be beneficial
- Utilizing public-private partnerships where appropriate
- Exploring more innovative bonds (e.g. green bonds) and infrastructure investment funds (e.g. pension funds or investment banks) to finance projects

Medium-Term Alternative Revenue Strategies

- Increasing the local option sales tax in Chattanooga and/or Hamilton County up to 0.5%
- Implementing additional surcharges for public transportation up to 2.75%

Longer-Term Alternative Revenue Strategies

- Authorizing an additional 0.5% surcharge central business district and/or tourism development zones
- Implementing impact fees (or other authorized taxes/fees) on new development
- Authorizing and expanding the use of a state infrastructure bank

Introduction & Background

As a recent report by the Organisation for Economic Co-operation and Development (OECD) argues, infrastructure is crucial to economic development both locally and regionally, and that “quality public investment can positively affect long-term growth, labor productivity, quality of life and private investment” (OECD, 2023, p. 2). Unfortunately, the same report also notes that investment in infrastructure in the United States has steadily decreased in the last half-century when measured as a percentage of GDP, with the primary responsibility falling on state and local governments (OECD, 2023). It is no surprise to any state or local official that there is a significant need for investment in new infrastructure improvements, deferred maintenance projects, and other capital needs; and, also, that funding for such projects present a sizable financial challenge for the vast majority of state and local governments, who are simultaneously balancing other policy priorities such as ensuring strong employment and economic development initiatives, expanding access to affordable housing, providing social support services, maintaining public safety, and creating cultural and recreational opportunities for residents that contribute to vibrant communities and quality of life for residents.

A 2022 report from the Tennessee Section of the American Society of Civil Engineers (ASCE) assessed the State of Tennessee on 13 infrastructure categories, including bridges (B), parks (C+), roads (C), solid waste (C+), stormwater (C+), transit (D+), and wastewater (C-), among others, rating the overall state as a “C” for the state of the state’s infrastructure condition, above the national average of a “C-,” but the same as that given to Tennessee in the ASCE’s 2016 assessment. However, the ASCE did note recent improvements to the state’s infrastructure condition, thanks to recent increases in both federal and state funding, including the Bipartisan Infrastructure Law, Inflation Reduction Act, and the American Rescue Plan Act at the federal level, as well as Tennessee’s 2017 Improving Manufacturing, Public Roads and Opportunities for a Vibrant Economy (IMPROVE) Act and substantial investments in roads, bridges, and other projects such as increased investment in Tennessee’s state parks. While the report recognizes that the state has decreased or eliminated the local match formerly required of some infrastructure projects such as bridge replacement projects, the ASCE also notes the continued challenges local officials face in addressing ongoing financial impacts in maintaining and replacing aging infrastructure that in some cases is well over a half-century old (Tennessee Section of the American Society of Civil Engineers, 2022).

Recently, the Tennessee Advisory Commission on Intergovernmental Relations (TACIR) estimated \$ 3.24 billion in infrastructure needs for Hamilton County¹, including projects in the conceptual stage (\$ 1.03 billion) as well as the planning, design, and construction phases (\$ 2.2 billion) (TACIR, 2024). Additionally, the City of Chattanooga’s FY 2024–2028 Capital Improvement Plan has identified \$ 317.8 million in general governmental projects over the next five years, as well as an additional \$ 469.4 million in capital improvements directed towards stormwater and wastewater projects paid out of enterprise funds. For these reasons it is critical to identify funding opportunities to close this “infrastructure investment gap,” as the majority of funding responsibility (55.4%) falls on state and local governments (OECD, 2023). Compounding this problem, major infrastructure projects often involve substantial intergovernmental coordination — both vertically (state-local) and also horizontally (local-local) — due to the fact that many infrastructure projects often span administrative boundaries, and as all subnational governments are competing for finite resources. Further, as the OECD (2023) points out, a sizable portion of federal funding, such as the Infrastructure Investment and Jobs Act, and very often state funding, is disbursed via competitive processes, many smaller governments and those with limited capacity to engage in grantsmanship often get left further behind, leaving only own-source revenues to close the gap. Locally, this

¹This estimate excludes primary and secondary public schools, as well as (post-secondary) colleges and universities.

has the potential to leave a number of small cities in Hamilton County outside the scope of traditional funding streams without viable alternatives.

According to the National League of Cities' 2023 *City Fiscal Conditions* survey, aside from overall increases in costs due to inflation (25%), respondents identified infrastructure needs (19%) as having the greatest negative effect on municipal budgets. Further, half (50%) of the cities surveyed in the same report indicated that they were less able to meet balanced budget requirements in FY 2024 — the highest percentage since the Great Recession (Farhad et al., 2023). For many, this is likely an unsurprising statistic due to the fact that inflation has impacted nearly every sector and household in the United States. According to the Bureau of Labor Statistics' index, the cost of construction materials alone increased by over 43% from January 2020 to January 2024 (BLS, 2024; OECD, 2023). Compounding these challenges is the fact that local governments often face numerous constraints when it comes to raising additional revenues, from state preemption on the tools cities and counties can use to fund capital projects and the amounts local officials are allowed to raise (often referred to as *tax and expenditure limits*), to the political and economic consequences inherent in any decision to change the tax structure in any locale (Singla et al., 2021).

As such, the nature of this report has two broad goals in mind. First to explore alternative capital funding mechanisms available to local governments in order to optimize a greater portion of general operating revenues for other priorities; and, second, to examine how Chattanooga and Hamilton County compare to other local governments both in Tennessee and in the Southeastern United States when it comes to capital funding. Thus, the subsequent sections are organized in the following manner. First, a broad comparative assessment of Chattanooga and Hamilton County's estimated capital expenditures and debt capacity are explored in order to give context to the current economic environment. Overall, it is clear from Census of Governments data that both Chattanooga and Hamilton County are both low-debt, but also relatively low-expenditure locales when it comes to capital expenditures. While smaller per capita debt ratios and lower expenditures are not necessarily a bad thing, and are indicative of a more fiscally conservative approach to capital funding — primarily a “pay-as-you-go” strategy — it is often the case that faster-growing communities finance between 50–75% of capital projects through the issuance of debt (Vogt, 2004; Marlowe et al., 2009). That being said, there is room for greater debt capacity on behalf of Chattanooga and Hamilton County, if warranted, as well as opportunities for greater investment as the city and county continue to grow along with a widening infrastructure gap.

Next, an examination of alternative revenue sources and funding mechanisms is explored, including those which could be implemented in the nearer term if approved by Chattanooga City Council or Hamilton County Commission, as well as those requiring approval via a voter referendum and/or the State of Tennessee, and longer-term options which would require statutory changes by the Tennessee General Assembly. These alternative revenue sources include more proximate options that are currently available to local officials, including an increase in property tax rates, the implementation of wheel taxes or an increase in the city's motor vehicle license fee, or the issuance of additional bonds where appropriate for a given project. Other strategies would require multi-year or even longer-term horizons due to requirements that certain approaches be approved by voters or alternatives not yet available either statewide or locally which would require action by the Tennessee General Assembly. Additionally, it is clear that with the implementation of almost any own-source alternative revenue (e.g. taxes, fees, or surcharges) that both financial and political factors will shape the decisions of city and county leaders. For this reason the subsection entitled *Considerations Related to Funding Sources & Approaches* provides some examples from the Federal Highway Administration's Office of Innovative Program Delivery which outlines considerations such as revenue potential, timing of revenue, ease of implementation, and public acceptance (D'Angelo et al., 2019).

Finally, an assessment of four peer cities and one peer county was conducted in order to more specifically assess where Chattanooga and Hamilton County stand in comparison to other growing metropolitan areas within our region, and also to gauge what other capital funding alternatives are being pursued that may be useful for local officials to consider here. Within these peer governments, several trends emerge which may give some perspective on how Chattanooga and Hamilton County could emulate other cities and counties in our region who are simultaneously addressing the “growing pains” associated with needed capital investments while also embracing the opportunities that coincide with growth in these thriving communities.

It is clear from these five peer groups that bonds and loans are used to a greater extent compared to Chattanooga and Hamilton County. As mentioned earlier, local governments often pivot from a *pay-as-you-go* to a *pay-as-you-use* approach when experiencing faster growth (Vogt, 2004; Marlowe et al., 2009), and while Chattanooga and Hamilton County are not experiencing the same level of growth as some larger metropolitan areas, there are arguably infrastructure and capital needs that are indicative of our own increases in population and expansion both in smaller cities outside of Chattanooga and in unincorporated areas of Hamilton County in recent years. Additionally, it is clear that many local governments have implemented specific dedicated funding mechanisms and dedicated revenue streams towards capital projects, directed at both *pay-as-you-go* and *pay-as-you-use* approaches. Lastly, there are several alternative financing tools and even greater opportunities for cities and counties in other areas to benefit from traditional financing approaches compared to Chattanooga and Hamilton County. These include options such as state infrastructure banks, the ability to assess impact fees on new development, and special purpose local option sales taxes (SPLOSTs) available in Georgia. While the Tennessee General Assembly has authorized certain surcharges for projects such as public transportation in recent years, other tools could provide even greater access to funds for other capital projects while still requiring public approval.

Comparative Nationwide Data on Capital Expenditures & Debt

The following data were derived from the U.S. Census Bureau’s 2018–2021² Annual Survey of State and Local Government Finance (United States Census Bureau, 2018–2021). The tables and figures below include estimates for capital expenditures for cities over 100,000 population and counties over 200,000 population, as well as a subset of those in the South.³ Although these estimates provide a general baseline for comparison, these data should *not* be regarded in the same manner as detailed information contained in respective city and county budgets, capital improvement plans, and annual financial reports (contained in subsequent sections). Thus, the actual dollar amount for Chattanooga or Hamilton County, for instance, may differ from the estimates calculated by the Census Bureau.

Estimates included below for municipal and county governments’ capital outlay categories were derived from the U.S. Census Bureau’s *Government Finance and Employment Classification Manual*. It should be noted that only *Construction* and *Land and Existing Structures* were included in these outlay estimates, and expenditures directed towards *Equipment* were excluded from these totals. Additionally, these categories were selected as those closest to the functional responsibilities of Chattanooga and Hamilton County, and excluded capital expenditures related to categories such as hospitals, toll roads, or water supply, as those are not the primary responsibility of these respective local governments. While education is under the purview of county governments in Tennessee (aside from municipalities with school systems and several special districts), it was excluded from this report and the capital expenditure categories below.

As shown below, [Table 1](#) includes the annual per capita expenditures for municipalities and townships with populations over 100,000 (both nationally, and in the South), as well as counties with populations over 200,000. Additionally, [Table 2](#) shows the average per capita capital expenditures by category for the years 2018–2021. As mentioned earlier, these data are only estimates, and the City of Chattanooga does not have functional responsibility over all of these expenditure categories. (A full listing of the included capital outlay categories is included in the [appendix](#).) Additionally, it should be noted that all of Hamilton County’s capital expenditures were categorized as “Other and Unallocable” for these four years; thus, the county equivalent breakdown was not included.

Table 1: Annual Per Capita Capital Expenditures, FY 2018–2021 (in Dollars)

Category	Fiscal Year			
	2018	2019	2020	2021
Chattanooga	144.85	173.89	214.59	228.34
Southern Municipalities (100k+)	259.14	319.62	331.71	326.09
All Municipalities (100k+)	316.26	341.48	350.19	348.03
Hamilton County	40.46	86.17	1.87	19.89
Southern Counties (200k+)	144.63	141.55	148.54	166.25
All Counties (200k+)	119.80	127.91	135.93	142.21

Source: United States Census Bureau (2018–2021)

²Due to the fact that data are not yet available for 2022, this section only includes these four years, compared to the remainder of the individual city and county analyses which generally cover fiscal years 2018–2022.

³Here, the South is defined as the following states: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia.

Table 2: Average Annual Per Capita Capital Expenditures by Category, FY 2018–2021 (in Dollars)

Category	Cities w/Populations 100k+		
	Nationwide	South	Chattanooga
Central Staff Services	7.63	8.08	—
Correctional Institutions	4.94	5.79	—
General Public Buildings	19.83	19.17	0.01
Housing and Community Development	18.15	10.54	26.27
Judicial and Legal	1.28	1.68	0.00
Libraries	6.95	4.85	—
Local Fire Protection	8.71	10.50	10.17
Parking Facilities	7.23	9.97	—
Parks and Recreation	26.10	29.90	13.24
Police Protection	7.92	10.69	6.04
Protective Inspection and Regulation	4.03	1.17	—
Public Mass Transit	32.83	19.12	15.20
Regular Highways	66.60	56.97	—
Sewerage	67.71	67.69	— ⁴
Solid Waste Management	9.94	7.47	—
Other and Unallocable	49.86	46.01	119.47
Total	339.71	309.62	190.42

Source: United States Census Bureau (2018–2021)

Local Government Debt

Included below are the average per capita estimates for outstanding debt at the end of fiscal year 2021 for the City of Chattanooga, all municipalities nationwide (with 100,000+ residents), and municipalities (over 100,000) in the South. Included are three types of debt as well as the aggregate total: short-term debt outstanding at the end of the fiscal year; long-term public debt outstanding; and long-term public debt for private purposes. Public debt for private purposes is often referred to as “conduit debt” and is typically used for development (downtown, industrial, or urban redevelopment) where the government issues a debt but a private third-party is the obligor. As shown in Table 3, the City of Chattanooga has significantly less debt per capita with (\$1,302) compared to other municipalities nationwide (\$2,362) and in the South (\$2,433).⁵

Table 3: Estimated Per Capita Debt, FY 2021 (in Dollars)

Category	Cities w/Populations 100k+		
	Nationwide	South	Chattanooga
Short-Term	217.48	150.19	15.74
Long-Term Public	3,204.97	3,376.33	3,617.58
Long-Term Private	1,094.97	1,055.65	273.39
Total	2,361.67	2,432.98	1,302.24

Source: United States Census Bureau (2018–2021)

⁴The Census of Governments classifies Chattanooga’s sewerage expenditures as operating expenditures rather than capital; and, thus, was not reported here to remain consistent with the comparison data. However, for FY 2021, it was reported that Chattanooga’s outlays on sewerage was \$75.9 million, or roughly \$415 per capita.

⁵This is approximately the same as reported in the FY 2021 City of Chattanooga ACFR, which puts the *net direct and overlapping debt per capita* at \$1,493.53.

Alternative Revenue Sources for Chattanooga and Hamilton County

As Singla et al. (2021) note, the most basic financing mechanisms cities and counties have at their disposal for infrastructure needs are: own-source revenues (i.e. taxes and fees, indicative of a pay-as-you-go approach); borrowing and financing from external sources (i.e. bonds and other loans, reflecting more of a pay-as-you-use approach); and, intergovernmental revenues from state and/or federal sources (i.e. grants or specific allocations from higher levels of government). In order to explore alternatives to these traditional financing mechanisms, each of the following potential revenue sources in the subsequent section are divided into three broad categories, using the same typology developed by Chen and Bartle (2022): *New Funding Sources*; *New Funding Mechanisms*; and, *New Financial Arrangements*.

These three approaches are mostly conceptualized on the basis of temporal and legal (or statutory) feasibility, with the understanding that all of the following options may not be available under Tennessee law now or in the future. However, it should be noted that given applicable statutory changes at the state level, many of these could become an option in the future if cities and/or counties were granted the authority by the Tennessee General Assembly. While a number of these alternative approaches are growing in popularity, a 2016 International City/County Management Association (ICMA) survey revealed that the majority of governments do not use these methods, opting for more traditional ways of financing capital projects and infrastructure improvements. According to the ICMA survey (Singla et al., 2021), the most popular tool in use is tax increment financing (34.8%), followed by developer (impact) fees and exactions (33.5%), public private-partnerships (27.5%), and special assessment districts (25.8%). The least popular among these methods in the same survey included crowdfunding (1.9%), as well as social impact bonds, green bonds, and grant anticipation revenue vehicle bonds (GARVEEs), all with less than one percent of local government officials indicating that they were already in use (Singla et al., 2021).

In addition to the typology created by Chen and Bartle (2022), D'Angelo et al. (2019) provide an in-depth overview of capital financing sources which are aimed mainly at generating funding for transportation-related projects, but many of which are applicable approaches to other capital projects, including both initial investments as well as ongoing operations and maintenance (O&M). In their report (*Value Capture Implementation Manual: Capitalizing on the Value Created by Transportation*), the authors include a number of case studies related to each technique and approach, which could prove to be useful for both Chattanooga and Hamilton County. D'Angelo et al. (2019) also provide a comprehensive overview of selecting appropriate value capture techniques for various fees, financing, and other revenue generating techniques, including legal considerations, market assessments, political feasibility, economic conditions, equity considerations, and potential implementation challenges. An overview of these approaches and considerations are included in Table 7. In addition to Chen and Bartle (2022) and D'Angelo et al. (2019), the following summaries also include reports from state and federal sources, as well as organizations such as the ICMA, Government Finance Officers Association (GFOA), and other sources which have compiled reports on infrastructure financing in recent years.

New Funding Sources

Local Option Sales Taxes

In addition to property taxes, sales taxes generally represent a significant portion of revenues for city and county governments. In cities and counties relying on a pay-as-you-go strategy for funding capital projects, these revenues become even more important. Additionally, unlike property taxes and other

revenue sources, non-residents also contribute to the sales tax base as commuters, tourists, and other visitors often contribute in meaningful ways to the sales tax base. Along those lines, a recent study in North Carolina found that one *in-commuter* represents approximately \$1,000 in taxable sales for a county in a given month, and that an average visitor’s hotel stay represents a \$525 contribution to the tax base for each given night; these figures represent approximately 17% and 12%, respectively, of the median county’s tax base in North Carolina (Afonso and Moulton, 2024).

In Tennessee, cities and/or counties are authorized to implement a local option sales tax of up to 2.75% within their borders; however, a number of cities and counties — including Chattanooga and Hamilton County — have not maximized this potential and have the opportunity to make the case to voters that up to an additional 0.5% represents an opportunity to increase local governments’ ability to fund necessary projects. According to the [Tennessee Department of Revenue](#), of the 380 municipal taxing jurisdictions⁶ in the state, approximately two-thirds of municipal taxing jurisdictions in Tennessee impose the maximum rate allowable under state law (as shown in Table 4). However, among the six cities in the state with a population greater than 100,000 residents, only Memphis⁷ and Murfreesboro currently impose the 2.75% rate, with Clarksville’s LOST rate currently set at 2.5%, while the remaining cities (Chattanooga, Knoxville, and Nashville) remain at 2.25%.

Table 4: Local Option Sales Tax (LOST) Rates in Tennessee — Count and Percentage

LOST Rate	Jurisdiction Count	Jurisdiction Percent
1.50%	1	0.3%
1.75%	2	0.5%
2.00%	8	2.1%
2.25%	91	23.9%
2.50%	25	6.6%
2.75%	253	66.6%

According to [Tennessee Department of Revenue](#), 33 municipalities in Tennessee currently have local option sales tax rates higher than their corresponding counties.⁸ Of note, all seven of the municipalities within Shelby County have a higher tax rate (2.75% versus 2.25%, respectively), while there is within-county variation in remaining 26 cities (representing 16 counties⁹). With only two exceptions (Loudon and Kingsport, both at 2.25%), the municipalities with differing tax rates are set at the highest allowable level (2.75%). Of the 17 counties with tax rates that differ from their corresponding municipalities, 12 are set at 2.25%, two are set at 2.5%, and three have a rate set at 2.0%. Finally, there is within-county variation in 15 counties, where at least one city has a different sales tax rate than the other municipalities. Of these 15 counties, 12 contain one municipality which has a tax rate that is different from the others within the county, while three counties contain cities where multiple cities have differing tax rates.

⁶There are 345 incorporated municipalities in Tennessee, with 30 cities and towns overlapping with more than one county. In these cases, some municipalities have different LOST rates in those respective counties.

⁷Memphis recently adopted the increased rate, which took effect in January 2020.

⁸These are shown in [Local Tax Rates: City vs. County Differences \(Table 17\)](#).

⁹Dunlap is the only incorporated municipality within Sequatchie County; thus, there is only a difference between the city and county tax rate, and not between other cities within the county.

Special Purpose Local Option Sales Taxes. The State of Georgia authorized local governments to impose special purpose local option sales taxes (SPLOSTs) via referendum in 1985. Originally designed for county infrastructure projects, municipalities meeting certain criteria and those which enter into intergovernmental agreements with their respective counties may also benefit from the imposition of these taxes. In 1996 Georgia also authorized ESPLOSTs directed towards capital outlays for school districts, and in 2015 authorized TSPLOSTs for regional transportation projects.

Recently, voters in Catoosa County, Georgia approved the reauthorization of the county’s SPLOST which coincided with the March 12, 2024 presidential primaries. By a roughly 20-point margin (60.7% for, 39.3% against) residents approved the extension of the 1% sales tax through fiscal year 2030. In total, the SPLOST is anticipated to bring in approximately \$96 million during the six-year period, of which roughly 80% would go to Catoosa County, 15% to the City of Fort Oglethorpe, and 5% to the City of Ringgold. Of Catoosa County’s allocation, this additional revenue would be used for projects such as: roads and bridges (31.6%); fire service (10.8%); sewer (8.8%); public buildings and grounds (8.3%); stormwater (7.4%); as well as other needs such as parks, public safety, IT, and other infrastructure needs.

Wheel Taxes & Vehicle Permit Fees.

In addition to local option sales taxes, [Chen and Bartle \(2022\)](#) also point to local option fuel tax (LOFT) and local option vehicle taxes (LOVT). Cities and counties in Tennessee are authorized to collect taxes and fees on vehicles registered to residents within their boundaries; however, the state collects fuel taxes which are then disbursed to local jurisdictions. Counties in Tennessee are authorized under state law (T.C.A. § 5-8-102) to adopt a wheel tax by a two-thirds vote of the local legislative body in two consecutive meetings; or, by a majority vote via referendum of the eligible voters in the county. However, if adopted by the county commission, rather than via referendum, and 10% of the registered voters within the county (during the last gubernatorial election) sign a petition within 30 days, the measure will be placed on the ballot (T.C.A. § 5-8-102(c)(2)(A)). Currently, the largest cities and counties in Tennessee have the following motor vehicle taxes and fees:

Table 5: Tennessee Motor Vehicle Privilege Taxes & Fees

Jurisdiction	County Tax	City Fee
<u>Hamilton County</u>	—	
Chattanooga		\$5
Davidson County	\$55	—
<u>Shelby County</u>	\$50	
City of Bartlett		\$25
City of Germantown		\$35
City of Memphis		\$30
City of Millington		\$30
City of Collierville		\$35
Knox County	\$36	—
Montgomery County	\$73	—
Rutherford County	\$50	—

According to a recent fiscal note on legislation proposing a biennial vehicle registration option (HB 345/SB 576) estimated that 59 of Tennessee’s 95 counties impose a wheel tax, with an average estimated rate of \$49. Although this bill passed the Tennessee Senate, it failed in the House Finance, Ways, and Means Committee. Regardless, this fiscal note is a good baseline for estimating the average motor vehicle privilege taxes imposed across the state. Currently, the City of Chattanooga, imposes a \$5 motor vehicle license fee on passenger vehicles registered within the city (Chattanooga City Code § 24-391, et seq.). Under city code, these funds are authorized for “the promotion of traffic safety and installation of signs, signals, markings and other safety devices and for regulating traffic on the streets of the city” (§ 24-398) in addition to the administration and enforcement of this provision. In FY 2022, the city brought in \$527,480 from the motor vehicle fee. Thus, for each \$5 incremental increase, the city could increase revenues by approximately \$500,000 for use towards traffic safety and other uses authorized in city code, or other related expenditures related to transportation needs in accordance with any subsequent ordinance updates in accordance with state law.

Local Option Transit Surcharges

In 2017, the Tennessee General Assembly adopted the *Improving Manufacturing, Public Roads and Opportunities for a Vibrant Economy* (IMPROVE) Act (Public Chapter No. 181) which authorizes local governments to implement a tax surcharge up to the authorized maximum for the current respective local tax rate (e.g. 2.75% for the local option sales and use tax), with a maximum limitation of \$200 on individuals. These surcharges can be levied similar to the following local privilege taxes: local option sales and use tax; business tax; motor vehicle tax; local rental car tax; tourist accommodation (hotel/motel) tax; and, residential development tax. The surcharge(s) must be approved by a voter referendum within the city or county, and two overlapping governments (i.e. a city and county) may not both implement a surcharge. A city may impose a surcharge without the respective county; however, if the county also approves the same surcharge via referendum, the city’s surcharge is voided (T.C.A. § 67-4-3202(f)).

Prior to the adoption by a local legislative body and referendum on the part of the voters, a local government must develop and adopt a transit improvement plan (TIP) which details “the public transit system projects and services to be funded and implemented under the program” (T.C.A. §67-4-3206). As outlined in T.C.A. § 67-4-3206(c), the TIP must include:

- *The type and rate of a surcharge that will provide funding to the program;*
- *When a surcharge will terminate or the date or conditions upon which the surcharge will be terminated or reduced;*
- *Any other sources of funding for the program;*
- *An estimate of the initial and recurring cost of the program;*
- *The implementing agencies responsible for carrying out the program; and*
- *The geographic location of the public transit system projects.*

Under state law, revenues from an established transit surcharge may be used for “costs associated with the planning, engineering, development, construction, implementation, administration, management, operation, and maintenance of public transit system projects that are part of a transit improvement program” (T.C.A. §67-4-3205(a)). This section also stipulates that surcharge revenues may be combined with other local, state, or federal funding sources (including taxes, fees, or fares), and may be used as matching funds for state or federal grants. Additionally, revenues may be used in conjunction with private funds (i.e. public-private partnerships), and also used to repay bonds; or, transferred to other “implementing

agencies to carry out a transit improvement program” (T.C.A. §67-4-3205(b)). Additionally, unlike some other LOST restrictions, there is no requirement that revenues be used for public education.

Nashville-Davidson County Mayor, Freddie O’Connell, recently unveiled a new proposal to improve public transit, including a 0.5% sales tax surcharge to help fund proposed improvements to bus service, including bus rapid transit corridors, express routes, and more frequent service in needed areas, as well as an estimated 86 additional miles of sidewalks (Stephenson, 2024b). A recent estimate published in *The Tennessean* calculated the potential monthly financial impact for average households in Nashville-Davidson County. All told, the proposal is estimated to cost a single adult an extra \$4 per month, including both groceries (\$2) and other household expenses (\$2), up to \$11 per month for a family of five with two adults and three children — \$7 on groceries and an additional \$4 on household expenses (Stephenson, 2024a). Although final estimates are still being developed, Nashville Mayor O’Connell noted that he expects Nashville’s surcharge to bring in billions of dollars over a 30-year period (Stephenson, 2024a). If pursued in Chattanooga and Hamilton County, estimated revenues would be lower based on population and other economic factors, as well as the type of goods and/or services that could be subject to a surcharge.

Central Business Improvement District Fees

Tennessee state law (T.C.A. § 7-88-117) allows for the imposition of additional fees on the sale of certain goods and services that are subject to state sales tax (with some exclusions) in central business districts that fall within a tourism development zone; however, this provision only applies to metropolitan governments (and, specifically, Nashville) at the moment. Currently, metropolitan governments may levy up to an additional 0.5% fee on goods and services, *excluding*: “professional services; lodging provided to transients; tickets to sporting events or other live ticketed events; alcoholic beverages which are subject to the liquor by the drink tax in addition to sales tax; newspapers and other publications; and, overnight and long term parking” (T.C.A. § 7-88-117(a)(1)(A–F)). Currently, half of the funds generated must go towards events and marketing within the district, with the other half dedicated to the safety and cleanliness of the district (T.C.A. § 7-88-117(b)(3)). Going forward, local governments could petition the General Assembly to allow for this provision to be applicable to all governments, not just metropolitan governments, which would allow the Chattanooga Convention Center Tourism Development Zone to implement an additional fee of up to 0.5% on the sale of certain goods and services for these uses, if so desired. This additional revenue could be used for the upkeep and maintenance of the downtown core and improvements of areas frequented by tourists while freeing up funds for other capital projects throughout the city.

New Fees & Special Assessments

Impact Fees. Although authorized in a number of cities and counties in Tennessee (including public and private acts, as well as specific forms of government and charter provisions), Chattanooga and Hamilton County are not currently able to impose impact fees on new development. However, changes to state law or a private act of the General Assembly could allow for this in the future.

Special Taxing & Assessment Districts Tennessee law currently authorizes counties to create road improvement districts for the construction, maintenance, and/or improvement of roads, bridges, culverts, and levees for the public welfare (T.C.A. § 54-12-101 et seq.). The process must be initiated by “a petition, signed by twenty-five percent (25%) of the landowners in the district who will be affected by or liable to be assessed for the expenses of the proposed improvement” (T.C.A. § 54-12-103) and authorizes the county commission to determine the amount of the special assessment necessary for requested improvements.

The costs of the assessment must be agreed to by 60% of affected property owners, based on acreage, and subsequent payments are secured by liens placed on property within that district. However, these improvement districts likely do not address needed road improvements on a broad scale, and would likely prove to be unpopular in all but a limited number of cases due to required support of landowners within the district and the provision that places a lien on affected properties. However, this mechanism remains in place for residents who may wish to have a new or expanded roadway in an area that is currently not a priority for the county.

Additionally, a proposal currently under consideration¹⁰ in the Tennessee General Assembly, referred to as the *Residential Infrastructure Development Act of 2024 (SB 2315/HB 2368)* would authorize the creation of infrastructure development districts. This bill would give municipalities “the authority and power to borrow money and issue bonds, notes, or other obligations for the purpose of paying infrastructure costs identified in the establishment resolution, reimbursing the developer for the prior payment of infrastructure costs, or refunding or refinancing such bonds, notes, or obligations” (7-84-716(a)). The bill would also allow for a special tax assessment within the district, which would then pay the bonds on behalf of the city, industrial development corporation, or the developer for infrastructure and improvements within that district.

Other Taxes. Finally, *Chen and Bartle (2022)* also point to revenue sources such as local option income (or payroll) taxes (LOITs); although, it should be noted that imposing a tax on income or payroll would be unconstitutional in Tennessee.

New Funding Mechanisms

Chen and Bartle (2022) include a number of options categorized as *new funding mechanisms*, including newer loan sources Transportation Infrastructure Finance and Innovation Act (TIFIA) Loans and the Water Infrastructure Finance and Innovation Act (WIFIA), which Chattanooga is already utilizing. Other funding mechanisms such as green bonds, catastrophe bonds, and environmental impact bonds fall under this category. Generally, these bonds are issued for projects that fall under environmental initiatives aimed at sustainability and resilience towards climate change and natural disasters.

Additionally, this category includes state infrastructure banks (SIBs), which were originally funded in the 1990s by the federal Department of Transportation. However, Tennessee never fully implemented this program, and although some recent legislation has been introduced to revive this source of funding for state and local projects, so far it has not materialized. Still, state infrastructure (or bond) banks remain a viable option in many states to provide local governments with financial resources such as loans and credit assistance which allow city and county governments to borrow at lower rates and incur lower costs of issuance (*Chen and Bartle, 2022; Srithongrung et al., 2021*). To date, states such as Florida, Ohio, Missouri, and Texas have provided millions of dollars in low-rate loans to their respective local governments for surface transportation, public transit, and rail projects since authorized in 1995 (USDOT). A 2016 International City/County Management Association survey found that only 12.6% of local government respondents noted that they were already using SIBs, with another 22.3% indicating that they were likely to use this tool if available (*Singla et al., 2021*). This alternative financing mechanism presents a significant opportunity to assist smaller local governments, those with limited financing capacity, and those with lower credit ratings with cost-effective solutions to closing their respective infrastructure gaps.

¹⁰As of March 14, 2024

Table 6: Innovative Funding Source Examples

New Funding Sources	
New Taxes	Local Option Taxes VMT Tax Electric Vehicle Taxes Carbon Taxes
New Fees	Value Capture Resilience Fees
New Financing Mechanisms	
New Credit Assistance Tools (Loans, Guarantees, Lines of Credit)	Water Infrastructure Finance and Innovation Act (WIFIA) Transportation Infrastructure Finance and Innovation Act (TIFIA) Environmental State Revolving Funds State Infrastructure Banks
New Bonds & Debt Financing Tools	Grant Anticipation Revenue Vehicle Bonds (GARVEEs) Green Bonds Catastrophe Bonds and Resilience Bonds Environmental Impact Bond
New Financial Arrangements	
Public–Private Partnerships	Design-Build Design-Build-Operate-Maintain Design-Build-Finance-Operate-Maintain Concession
Privatization	Lease/Asset Recycling
Infrastructure Investment Funds	Pension Funds Sovereign Wealth Funds Private Companies (Insurance and Investment Banks)
Private and Nonprofit Partners	Donations Grants Program Investment
Crowdfunding	Donation-Based (Public Goods)

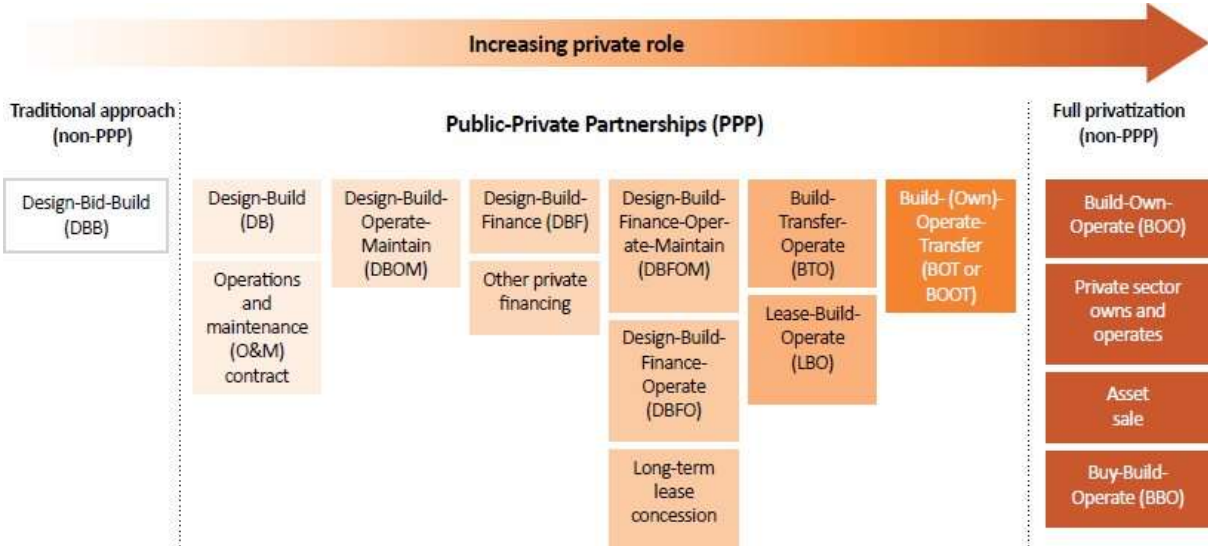
Source: Chen and Bartle (2022)

New Financial Arrangements

Public-Private Partnerships

One of the newer approaches to innovative infrastructure financing involves public-private partnerships (P3s), which are most familiar in the realm of transportation funding (particularly toll roads, tunnels, and bridges), but are becoming more utilized with other infrastructure projects such as water supply and wastewater treatment (Chen and Bartle, 2022). In Tennessee, current statutes allow for limited P3s at the state level, including more traditional design-build projects (T.C.A. § 54-1-119) and, most recently, the Transportation Modernization Act of 2023, which amended a number of provisions in Title 54 (relative to highways) and expands the scope of “choice lane” construction in the state (Public Acts of 2023, Chapter 159). Shown in Figure 1 (and listed in Table 6), P3s range from more traditional design-build projects, where both elements are contracted out in one stage to a private entity, to nearly full-on privatization arrangements, such as build–own–operate–transfer (BOOT), where a private entity owns the infrastructure until transferring it to a government entity at the end of a set term (National Conference of State Legislatures, 2017).

Figure 1: Project Delivery Models Along a Continuum of Private Sector Involvement



Source: National Conference of State Legislatures (2017)

A recent report by the Congressional Research Service (Mallett, 2021) provides a valuable overview of P3s for transportation funding. Quoting the U.S. Department of Transportation, Mallett (2021) notes that these partnerships “between a public agency and a private-sector entity...allow for greater private-sector participation in the delivery of transportation projects” (p. 1). Similar to Chen and Bartle (2022), the report describes a similar spectrum of private sector involvement in the process, including: design-build; design-build-finance; design-build-operate-maintain; design-build-finance-operate-maintain; and, long-term lease agreements. Mallett (2021) explains that the last two options (design-build-finance-operate-maintain, or DBFOM and long-term lease agreements) have recently generated considerable interest among private sector partners, referred to in these arrangements as the *concessionaire*, and include the financing, construction, operations, and maintenance of a *new* facility (DBFOM), or the “operation and maintenance of an *existing* facility” for a specified period, in the case of long-term lease agreements (Mallett,

2021, p. 2).

Additionally, the Federal Highway Administration's Office of Innovative Program Delivery prepared two "primers" on P3 delivery of projects, including an extensive overview of the risks associated with these arrangements ranging from the more basic design-build approach to more complex DBFOM projects. These risks are quantified and include a number of considerations throughout the design, build, and operational processes, ranging from political risks (e.g. ensuring public, legislative, and administrative support) to risks associated with financing and construction, to operational and maintenance risks such as assuring a return on investment for private partners and long-term costs associated with maintaining the condition of these projects (Federal Highway Administration, Office of Innovative Program Delivery, 2012, 2014).

Considerations Related to Funding Sources & Approaches

D'Angelo et al. (2019) provide a valuable overview of the key features related to value capture techniques, including various development fees, BIDs, TIFs, and other opportunities for financing infrastructure projects. Of note, the authors summarize the revenue potential (low, medium, or high), the timing of revenue received (immediate or delayed), the ease of implementation (simple, moderate, or difficult), and the perceived threshold of public acceptance (low, medium, or high). While these factors vary based on both the circumstances and the locale, D'Angelo et al. (2019) provide a baseline for considerations when weighing various financing approaches and determining which potential paths to pursue.

Table 7: Transportation and Infrastructure Funding Sources & Approaches

Technique	Expenditure or O&M	Funding or Financing	Revenue Potential	Timing of Revenue	Ease of Implementation	Public Acceptance
Impact Fees	Capital Expenditure	Funding	Medium	Immediate	Simple	High
Negotiated Exactions	Capital Expenditure	Funding	Medium	Immediate	Simple	High
Transportation Utility Fees	O&M	Funding	Low	Delayed	Moderate	Medium
Special Assessment Districts	Capital Expenditure	Both	Medium / High	Delayed	Moderate	Medium
"Business Improvement Districts"	Both	Funding	Low	Immediate	Moderate	High
Land Value Taxes	Both	Funding	High	Delayed	Difficult	Low / Medium
Sales Tax Districts	Capital Expenditure	Both	High	Delayed	Moderate	Medium
Tax Increment Financing	Capital Expenditure	Both	Medium / High	Delayed	Moderate	Medium
Joint Development	Capital Expenditure	Both	Medium	Immediate or delayed	Simple / Moderate	Medium
Naming Rights	Both	Funding	Low	Immediate	Simple	Medium / High

Source: D'Angelo et al. (2019)

Overview of City and County Findings

Nashville, TN

- Nashville utilizes “4% funds” for smaller capital expenditures, which are a special revenue fund allocated quarterly through omnibus resolutions for equipment and repairs that fall under the purview of the General Services District (GSD). Depending on the year, these funds are most often used for IT and maintenance functions, as well as vehicles/fleet and equipment.
- Overall, the vast majority of proposed capital spending is financed through bonds, with general obligation bonds representing 82.4% of requested projects, and revenue bonds representing another 10.3% over the five fiscal year period (FY 2018–2022). The government also relies heavily on bond anticipation notes (or “commercial paper”) to expedite ongoing projects.

Huntsville, AL

- Within the City of Huntsville, the sales tax rate is 9%, including the State of Alabama’s 4% portion, a ½% allocation for Madison County, and the remaining 4.5% which goes to the city. Of that 4.5%, 1.63% is dedicated to capital funding projects. The 1990 Capital Improvement Fund receives 0.63% and the 2014 Capital Improvement Fund receives the remaining 1%.
- 6.5 mills each of the total property tax rate are dedicated to school facilities and Public Building Authority (PBA) lease revenue bonds.
- Since 2000, Huntsville has created seven separate TIFs, representing over \$306 million in spending on projects including schools, transportation, and new building construction, with another \$126.7 million in approved spending on outstanding projects.

Charlotte, NC

- To the extent possible, Charlotte’s debt policy is to prioritize a pay-as-you-go approach before taking on any new debt. There is a built-in *Pay-as-You-Go Capital* (PAYGO) property tax rate that, as of FY 2022, represents 0.73¢ of the 34.81¢ per \$100 of assessed value (roughly 2.1% of the property tax rate); while 6.77¢ is dedicated to debt service for capital projects in FY 2022.
- In 2018, the sales tax rate in North Carolina is 7.25%, with 2.5% going to local governments. Of that 2.5%, 1% is split evenly with ½% dedicated to PAYGO funding, and the other ½% dedicated to debt service. Charlotte also has a Transit PAYGO fund, with revenues generated by a vehicle rental tax and motor vehicle license revenue, and a property tax allocation which dedicates 2.1% of the property tax rate within the city to the PAYGO program. Also included in the 2.5% local option is a 0.5% transit tax.
- The city has established 6 municipal services districts, which impose an additional ad valorem tax on properties within those districts (ranging from 1.3¢ to 4¢ per \$100 in valuation).
- The city utilizes *certificates of participation* as an alternate to more traditional bonds and allow the city to pledge an asset as collateral in exchange for the borrowed debt, but do not require voter approval.

Cobb County, GA

- No new bonds for governmental activities have been issued during fiscal years 2018–2022, although \$24.7 million and \$386.6 million were issued in 2017 and 2015, respectively.

- The county relies heavily on Special Purpose Local Option Sales Tax (SPLOST) funds, which have been used since the 1980s and generated approximately \$3 billion to date for various capital projects.
- A number of special districts and/or special revenue funds encompass Cobb County for various purposes, including the construction and maintenance of capital projects and assets - Cumberland Special Services District Fund I & II, the Six Flags Special Services District, as well as Street Light and Sidewalk districts.

Greenville, SC

- Similar to Charlotte, the City of Greenville has adopted a significant pay-as-you-go policy toward financing capital projects. In many years, a plurality of the capital projects are funded through the general fund or other funds, with bonds and other financing sources playing a smaller role in the capital budgeting process.
- The City of Greenville maintained three TIFs in recent years: the Downtown Infrastructure Fund, West End Tax Increment Fund, and Viola TIF. The Downtown Infrastructure Fund was established in 1986 and encompassed the central business district, but expired September 2021, after which the remaining funds were transferred to the general fund. Similarly, the West End TIF was established in 1991 and also ended in September 2021. The Viola TIF (also expired, as of 2016) was established via an intergovernmental agreement with the county and school system. Net revenues (gross revenues minus bond payments) from the Downtown and West End TIFs were divided as such: 53.3% to the school district and 19.11% to Greenville County. The remaining 27.09% of net revenues were used “to support the CBD Public Works crew, the Economic Development Project Account that funds public/private partnerships and other capital/planning initiatives” (FY 2021 Budget, p. H-1).

Nashville-Davidson County, TN

- Population (2022): 683,622

Major Revenue Sources

Nashville-Davidson County relies on the following sources of capital funding, nearly all of which are common to local governments, with the exception of the Four Percent (4%) Reserve Fund.

- General obligation bonds
- Revenue bonds
- Notes and commercial paper
- Federal and state grants
- 4% reserve funds
- Enterprise funds
- Operating (general fund) revenue
- Miscellaneous funds

Bonds. As of FY 2022, Nashville has an outstanding total of approximately \$2.2 billion in general obligation (G.O.) bonds for the GSD and USD combined, and \$1.28 billion in revenue bonds with the Department of Water and Sewerage Services. According to the FY 2022 ACFR, Nashville’s “total general obligation and revenue bonds outstanding increased by \$104 million (2.3%), during the current fiscal year. New bond issues totaled \$609.6 million, which were offset by principal payments of \$261.5 million and refundings of \$249.4 million. Deferred amounts decreased a net amount of \$15.5 million. The Department of Water and Sewerage Services entered into agreements with the State of Tennessee to borrow under the State’s Revolving Fund Loan Program. Other debt increased by \$5.5 million due to the borrowing of the State loans of \$9 million less principal payments of \$3.5 million on outstanding qualified school construction loans.” (MD&A, p. A-1)

Bond Anticipation Notes. In addition to G.O. and revenue bonds, Nashville also utilizes bond anticipation notes (“commercial paper,” or “CP”) with maturities between 1–270 days, and to a lesser extent notes that are issued for 3–5 years. “In July 2017, the Government instituted a new general obligation commercial paper program to provide interim or short-term financing for various authorized capital projects. In July 2018, the Government instituted a new Water and Sewer revenue bond commercial paper program to provide interim and short-term financing for various authorized capital projects of the Department of Water and Sewerage Services. Commercial paper obligations of \$494.4 million outstanding on June 30, 2022 are considered short term liabilities of the appropriate capital projects and proprietary funds. The commercial paper obligations will be redeemed with the proceeds from the future issuance of general obligation or revenue bonds” (FY 2022 ACFR, p. A-11).

Four Percent Reserve Funds. According to the Nashville-Davidson County Capital Improvements Budget (FY 2022), “4% funds” are a special revenue (reserve) fund allocated quarterly through omnibus resolutions for equipment and repairs that fall under the purview of the General Services District (GSD). Depending on the year, these funds are most often used for IT and maintenance functions, as well as vehicles/fleet and equipment. In terms of revenues, “[f]our percent (4%) of all original monies collected by the GSD General Fund (Fund 10101) are transferred to this fund. Administratively, the 4% is based on all

GSD General Fund gross receipts except for revenues from other governments and certain other internal sources and transfer accounts” (FY 2020 Operating Budget, p. J-30003-1). Although the Metro charter allows the government to establish the same fund for the Urban Services District (USD), the council has not yet pursued this option. In FY 2022, revenues to the 4% fund totaled approximately \$50.4 million. A sample of Metro code is provided in the appendices (*Nashville Metro General Reserve (Four Percent) Fund Policy*) which outlines the policies regarding the 4% fund.

Capital Improvement Plans, Budget & Spending

A summary of the Capital Improvement Plan requests and funding sources are presented in Table 9, summarized by department group. The CIP funding sources include all requests made by fiscal year and proposed funding sources, but does not delineate between projects funded by fiscal year (only requests). Projects actually funded via annual budgets are presented in the subsequent section, but do not include funding sources. Overall, the vast majority of proposed capital spending is financed through bonds, with general obligation bonds representing 82.4% of requested projects, and revenue bonds representing another 10.3% over the five fiscal year period (FY 2018–2022). Federal funds (2.8%), miscellaneous funds (2.0%), 4% funds (1.8%), state funds (0.4%), enterprise funds (0.4%), and funds from the operating budget (0.001%) represent the remaining 7.3% of requested funding for capital projects from the FY 2018–2022 CIPs.

CIP Department Groups

For the purposes of the CIP, Nashville-Davidson County groups departments together by the following broad categories: Enterprises (including Water & Sewer); Facilities & Technology; Public Works; Safety; Schools; and, Transit, Development & Culture. For the purposes of this project, Schools and Enterprises, with the exception of Water & Sewer were excluded. Of the remaining groups, the associated departments are listed below.

- Facilities & Technology
 - Includes: Constitutional offices (Assessor, Clerk, etc.); Finance; General Hospital; General Services; Health; Information Technology; and Social Services (among others).
- Public Works
 - Standalone, but includes all major transportation costs (roads, sidewalks, bikeways, etc.) as well as solid waste facilities, equipment, and maintenance.
- Safety
 - Includes: Fire; Police; Courts (including Juvenile Court); and, Emergency Management.
- Transit, Development & Culture
 - Includes: Arts Commission; Historical Commission; Library; Metropolitan Development and Housing Agency (MDHA); Metro Transit Authority (MTA); Parks; and Planning Commission projects.
- Water & Sewer
 - Standalone, but partially funded by enterprise funds.

Table 8: Capital Improvements Budget (CIB) Requests & Funding Sources, FY 2018–2022

Department Group	Fiscal Year				
	2018	2019	2020	2021	2022
<u>Facilities & Technology</u>					
Approved G.O. Bonds	3,300,000				400,000
Miscellaneous Funds	30,570,000	30,577,000	30,213,000	35,000,000	25,000,000
Operating Budget Funds		100,000			
Proposed 4% Funds	33,037,500	16,225,100	21,203,120	64,392,000	58,523,900
Proposed G.O. Bonds	243,214,622	846,128,622	1,200,216,220	1,718,633,681	1,791,342,332
Proposed Revenue Bonds	150,000,000		40,000	40,000	540,000
State Funds		2,000,000			
<u>Public Works</u>					
Approved G.O. Bonds	35,500,000				
Federal Funds	124,981,200	57,222,200	7,250,000	12,250,000	5,000,000
Miscellaneous Funds	13,000,000	17,000,000			
Proposed G.O. Bonds	718,669,900	269,042,200	173,311,516	211,403,300	320,675,000
State Funds	15,950,000	8,650,000	8,400,000	13,400,000	5,000,000
<u>Safety</u>					
Approved G.O. Bonds					22,151,000
Proposed 4% Funds					3,125,000
Proposed G.O. Bonds	136,136,900	94,294,500	161,320,000	102,202,300	200,822,000
<u>Transit, Development & Culture</u>					
4% Funds	4,450,000				
Approved G.O. Bonds	967,000	1,490,000	1,165,000		1,547,500
Federal Funds	6,850,000	10,600,000	5,050,000		126,525,000
Misc Funds	10,000,000				
Miscellaneous Funds		4,900,000	17,000,000	21,000,000	21,000,000
Proposed 4% Funds		4,450,000	5,777,000	9,035,600	7,386,100
Proposed G.O. Bonds	376,941,000	283,976,000	353,384,000	349,934,800	859,322,955
<u>Water & Sewer</u>					
Enterprise Funds	4,350,000	6,100,000	6,400,000	8,715,000	19,700,000
Proposed G.O. Bonds	18,500,000	21,200,000	16,570,000	22,250,000	19,050,000
Proposed Revenue Bonds	256,425,000	93,582,000	48,339,250	449,780,000	329,012,250
Total	2,182,843,122	1,767,537,622	2,055,639,106	3,018,036,681	3,816,123,037

Capital Spending Plans

Each year, as part of the annual budgeting process, the mayor proposes a Capital Spending Plan that is considered and approved by the Metro Council. Although these are broken down by department, they do not include the direct funding source in aggregate form (only by individual project). As such, the total amounts included below are grouped by department group (similar to Table 9) to provide a rough comparison of the projects and their funding sources.

Table 9: Capital Improvements Budget (CIB) Requests, FY 2018–2022

Department Group	Fiscal Year				
	2018	2019	2020	2021	2022
Facilities & Technology	26,000,000	82,700,000	47,408,000	36,750,000	43,786,000
Public Works	80,000,000	107,000,000	13,950,000	103,372,000	108,994,500
Safety	15,000,000	–	14,870,000	52,700,000	67,750,000
Transit, Development & Culture	78,000,000	70,200,000	12,300,000	54,050,000	152,845,000
Water & Sewer	–	20,000,000	–	19,830,000	15,550,000
Total	199,000,000	279,900,000	88,528,000	266,702,000	388,925,500

Impacts on the Operating Budget

Nashville’s capital projects impact the operating budget in the following ways:

- The 4% Reserve Funds are drawn from the General Services District’s General Fund, which has a direct impact on the amount of expenditures the government is able to appropriate in a given year.
- The repayment of general obligation bonds (both principal and interest) is an annual expenditure in the operating budget, and is accounted for in determining the government’s debt capacity while developing the annual capital spending plan.
- Ongoing operating costs (staffing, utilities, maintenance, etc.) are considered in the capital improvement process since these items will have an impact on the annual operating budget.

Business Improvement Districts

Nashville has two business improvement districts (BIDs), the Central Business Improvement District (CBID), encompassing most of the downtown core, and the Gulch Central Business Improvement District (GCBID), encompassing the Gulch area — just southwest of the downtown core. As of FY 2022, the CBID generated revenues were \$3,672,200 and the GCBID were \$583,900. The CBID imposes a rate of \$0.1294 and the GCBID \$0.1081 per \$100 of assessed valuation within the district overlay, in addition to the fees generated by applicable sales and services. As of July 2021, the fees in the CBID increased from 0.25% to 0.5%.

Huntsville, AL

- Huntsville Population (2022): 221,933
- Madison County Population (2022): 403,565

Funding & Revenue Sources

In addition to the general fund, Huntsville delineates funding to the following funds: Grants Fund (federal, state, and local grant revenues and related expenditures); Capital Improvements Fund (sales and use tax, intergovernmental, and internal funds); Public Building Authority (PBA) City Hall Fund (bond proceeds for the construction of city hall); and, Debt Service Fund (long-term debt not financed by proprietary funds, property taxes restricted for debt service, sales taxes transferred from the General Fund and Capital Improvements Fund).

The Capital Improvement Fund “accounts for the cost of constructing a variety of public works projects and related debt service, and the cost of various city departments’ capital spending and maintenance activities. Financing is provided by general obligation debt, a transfer from the General Fund of approximately 18% of annual sales taxes, and interest revenue” (FY2018 ACFR, p. 22). Additionally, the “2014 Capital Improvement Fund of the City accounts for the cost of constructing various road projects and related debt service, and the cost of economic development projects. Financing is provided by a one-cent sales and use tax and limited general obligation debt” (FY2018 ACFR, p. 22). In FY 2022 alone, the two combined funds brought in over \$101 million from tax revenues (\$60.5 in the 2014 fund, and \$41.1 in the 1990 fund) in addition to intergovernmental revenues, earned interest, and other sources. At the end of FY 2022, the fund balance was a combined \$145.6 million.

Sales Taxes. Within the City of Huntsville, the sales tax rate is 9%, including the State of Alabama’s 4% portion, a ½% allocation for Madison County, and the remaining 4.5% which goes to the city. Of that 4.5%, 1.63% is dedicated to capital funding projects. The 1990 Capital Improvement Fund receives 0.63% and the 2014 Capital Improvement Fund receives the remaining 1%.

Special Revenue Funds. 6.5 mills each of the total property tax rate are dedicated to school facilities and Public Building Authority (PBA) lease revenue bonds. The capital debt (PBA) fund brought in approximately \$22.5 million in FY 2022, and the school fund brought in \$23.6 million in revenues. Additionally, the city collected roughly \$22.5 million in lodging (hotel/motel) taxes (charged at a 9% rate, plus a \$2 room per night surcharge as of 2017) and \$5.3 million from the city’s portion of state fuel taxes in FY 2022.

Bonds. As of the close of FY 2022, the City of Huntsville had \$613.5 million in outstanding general obligation bonds (or *warrants*), \$151.87 million in lease revenue bonds, and \$109 million in revenue warrants. In 2017, the Public Building Authority (PBA) issued lease revenue bonds totaling \$46.965 million to refund outstanding 2007 revenue bonds used to construct a new public safety, jail, and court facility. Since then, the PBA has issued \$37 million for a city amphitheater and \$74.285 million for a new city hall facility.

Tax Increment Financing Districts. Since 2000, Huntsville has created seven separate TIFs, representing over \$306 million in spending on projects including schools, transportation, and new building construction, with another \$126.7 million in approved spending on outstanding projects. The most recent TIF (TIF 7) includes two major road construction projects (\$39.9 million, to date) and nearly \$70 million spent to

date on the *New World* industrial site improvements which will house a new auto manufacturing plant. Two other TIFs (TIF 1 and TIF 3), both begun in 2000 and expired as of 2006 (three years ahead of schedule) and 2012 (eleven years ahead of schedule). Both TIFs focused on the growing western portion of the city, with TIF 1 (\$2.3 million) focusing on schools and road improvements and TIF 3 (\$39.5 million) focusing on the development of an industrial park and schools within the district.

Capital Improvement Plans

Currently only the FY 2019 and FY 2022 Capital Improvement Plans are available, revenue and expenditures for which are summarized below.

FY 2022 CIP. The largest capital project in the FY 2022 CIP is a new municipal (city hall) complex¹¹, totaling \$85 million; it also includes a \$14 million public safety training facility and a \$4.5 million fire station, all funded through debt. Aside from those projects, there is significant investment in the John Hunt Park¹², branded as Huntsville’s “Central Park.” In FY 2022, the CIP included \$13.3 million in projects (all funded by debt) for soccer fields, playgrounds, and restroom facilities. The plan also budgets for \$14 million in ARPA funding designated towards park construction and renovation (including the renovation of a community center) and stormwater projects. The remaining funds, derived from sales tax (1.63%), gas tax allocations, and a small general fund transfer. These funds are budgeted to cover street maintenance and resurfacing, sidewalk construction and maintenance, fleet purchases, and other buildings and parks projects.

Table 10: Huntsville 1990 Capital Improvement Plan Revenues, FY 2022

Funding Source	Funding Total	Funding Percent of Total
Debt	\$122,600,000	71.5%
Sales Tax	\$32,365,000	18.9%
ARPA	\$14,000,000	8.2%
Gas Tax	\$2,459,453	1.4%
General Fund Transfer	\$85,000	0.05%
Total	\$171,509,453	100%

The 2014 Capital Improvement Plan for FY 2022 is funded solely from the 1% sales tax revenue, with no debt planned for that fiscal year. The expenditure categories included in the budget are as follows.

Table 11: Huntsville 2014 Capital Improvement Plan Expenditures, FY 2022

Project Group	Total Expenditures	Percent of Total Expenditures
Street Construction & Projects	\$26,250,000	57.9%
Redevelopment Efforts	\$9,150,000	20.2%
Economic Development	\$8,500,000	18.8%
Multi-Modal/Transit Services	\$750,000	1.7%
Drainage	\$650,000	1.4%
Total	\$45,300,000	100%

¹¹Smith (2021) *Moving into the future: A look at Huntsville’s new City Hall*

¹²City of Huntsville: *John Hunt Park*

Charlotte, NC

- Charlotte Population (2022): 897,720
- Mecklenburg County Population (2022): 1,145,392

Debt Policy

To the extent possible, Charlotte’s debt policy is to prioritize a pay-as-you-go approach before taking on any new debt. The city also strives to maintain a “per capita debt ratio within the moderate range as defined by rating agency criteria as published periodically sufficient to maintain current credit ratings” (FY 2028 Budget, p. 11). There is a built-in *Pay-as-You-Go Capital* (PAYGO) property tax rate that, as of FY 2022, represents 0.73¢ of the 34.81¢ per \$100 of assessed value (roughly 2.1% of the property tax rate); while 6.77¢ is dedicated to debt service for capital projects in FY 2022.

Sales Taxes & PAYGO Funding. In 2018, the sales tax rate in North Carolina was 7.25%, with 2.5% going to local governments. Of that 2.5%, 1% is split evenly with ½% dedicated to PAYGO funding, and the other ½% dedicated to debt service. Charlotte also has a Transit PAYGO fund, with revenues generated by a vehicle rental tax and motor vehicle license revenue, and a property tax allocation which dedicates 2.1% of the property tax rate within the city to the PAYGO program. Also included in the 2.5% local option is a 0.5% transit tax.

Special Revenue Funds

The city operates a number of special revenue funds, including the Convention Center Tax Fund, State Street Aid Fund, Neighborhood Development Fund, and others that allocate restricted funds for specific purposes. Notably, the City of Charlotte has several municipal services districts, described below.

Municipal Services District. As of 2023, Charlotte’s municipal services districts are taxed at an additional rate per \$100 valuation shown below. Each of the districts is established as a 501(c)4 as provided under North Carolina state law.¹³

- District 1: Center City – 1.36¢
- District 2: Center City – 2.27¢
- District 3: Center City – 3.38¢
- District 4: South End – 3.90¢
- District 5: University City – 2.79¢
- District 6: SouthPark – 4.00¢

Bonds & Certificates of Participation

Charlotte has pursued two primary options for financing capital projects in recent years — more traditional general obligation bonds and *certificates of participation*. Unlike general obligation bonds, which must be approved by voters, certificates of participation are forms of debt that allow the city to pledge an asset as collateral in exchange for the borrowed debt and do not require voter approval. Charlotte

¹³N.C.G.S. § 160A-535 et seq. – *The Municipal Service District Act of 1973.*

City Council’s approved allocations of general obligation bond revenues are outlined in the next subsection, grouped by project/expenditure categories as outlined in their Community Investment Plan (CIP). Typically, the city issues bonds every two years to cover the approved projects included in the CIP.

Community Investment Plan

Charlotte prepares a 5-year CIP with each annual budget outlining projects to be funded with general obligation bonds and certificates of participation, which is presented biennially (as even years) and amended in odd years. These expenditures are broadly represented in the Capital Projects Fund shown below.

Capital Projects Fund

Table 12: Charlotte Capital Projects Fund Expenditures, FY 2018–2022 (in thousands)

Project Category	Fiscal Year				
	2018	2019	2020	2021	2022
Affordable housing	12,440	15,987	5,726	9,292	20,398
Area plans	320	284	1,057	1,085	953
Business corridors	981	1,009	1,062	1,170	3,464
Capital equipment	29,026	29,404	27,640	28,969	20,930
Capital facilities maintenance	7,674	5,737	6,597	6,992	5,727
Economic development corridors	3,416	5,625	6,489	5,970	4,753
Environmental services program	1,316	1,758	2,406	1,475	1,235
Facility renovations	24,854	26,010	64,369	73,489	25,496
Housing	285	160	252	183	139
Innovative housing	3,173	2,689	4,063	9,844	3,785
Land acquisition	–	–	–	–	401
Neighborhood improvements	10,215	9,214	14,750	17,135	15,817
New facilities	7,984	23,468	53,181	39,613	7,315
Non-street transportation infrastructure	6,801	9,753	12,125	17,839	21,525
Other equipment	64	730	2,816	2,261	6,245
Pedestrian safety	12,102	13,903	13,739	13,031	13,102
Street and road infrastructure	19,960	25,005	23,095	43,673	33,279
Technology	8,756	5,156	5,911	6,350	4,616
Traffic control	6,452	6,260	6,768	6,648	5,475
Transit corridor development	14,356	45,519	56,695	23,033	18,752
Transportation partnerships	1,273	1,975	226	197	477
Tree program	3,761	4,843	4,329	2,958	3,046
Total	175,209	234,489	313,296	311,207	216,930

Impacts on Operating Budget

The CIP includes a breakdown of the impact the plan will have on operating costs (usually personnel, maintenance, and/or minimal cost overruns).

Cobb County, GA

- Marietta Population (2021): 60,962
- Cobb County Population (2022): 771,952

Capital Funds & Funding

No new bonds for governmental activities have been issued during fiscal years 2018–2022, although \$24.7 million and \$386.6 million were issued in 2017 and 2015, respectively. The 2017 general obligation bond was issued to acquire park land, and had an outstanding balance of \$4.65 million as of the close of FY 2022. In 2015 a revenue bond totaling \$386.6 million was issued to finance the construction of the new Braves stadium (formerly SunTrust, now Truist Park). Other outstanding revenue bonds total \$59.165 million as of the close of FY 2022, and have been used in the past to finance the construction of the convention center, acquisition of land, performing arts center, parking garages, refunds on earlier bonds, and other capital activities.

Stadium Capital Maintenance Trust Fund. The Stadium Capital Maintenance Trust Fund was created to cover maintenance and repairs of the Braves stadium, up to a maximum of \$35 million over the 30- year lease. To date, the fund has not incurred any expenditures, but made a transfer in the amount of \$1,239,234 for the first time in FY 2022. The fund has a balance of \$14,413,149 at the close of FY 2022.

Capital Projects Fund. The Capital Projects Fund is generally funded through transfers from the operating budget, with projects identified through the biennial budget capital improvement program (CIP) and capital replacement schedule (CRS) process. The CIP includes new items or projects identified for each biennial budget cycle, and the CRS includes the replacement or maintenance of existing capital items. Capital projects funds in recent years have included: Public Facilities, SPLOST, SCRA Construction, and Stadium Construction.

Special Purpose Local Option Sales Tax (SPLOST) Funds. Cobb County voters approved separate SPLOST referenda in 2005, 2011, 2016, and 2020, respectively. The following information is taken from the FY 2021–2022 biennial budget (pp. 379–381) and FY 2022 ACFR.

- 2005 SPLOST: January 1, 2006–December 31, 2011, \$860 million
 - To date, has funded four major capital project categories: transportation (\$660 million), public safety radio communications (\$27 million), Sheriff’s jail expansion (\$110 million), and a new judicial facility (\$63 million). The program currently has \$20.8 million unencumbered and \$5.3 million encumbered but not yet spent.
- 2011 SPLOST: January 1, 2012–December 31, 2015, \$615.3 million (as of FY 2022)
 - To date, has funded: transportation (\$250.9 million), public safety equipment (\$12.9 million), various county facility renovations and improvements (\$16.7 million) and Parks and Recreation facilities renovations and improvements (\$82 million). The remaining funding is allocated to Municipal Improvements (\$129.5 million).
- 2016 SPLOST: January 1, 2016–December 31, 2021, \$1.11 billion (as of FY 2022)
 - Approved to fund five major county capital project categories: transportation (\$287.3 million), public safety (\$88 million), public services such as Parks, Libraries, and Senior Services (\$102.9 million) and Support Services such as Public Facilities and Information Technology

(\$48 million) and countywide projects (\$38.9 million). The remaining funding is allocated to Municipal Improvements (\$184.9 million).

- 2020 SPLOST: January 1, 2022–December 31, 2027, \$164.9 million collected as of FY 2022
 - Approved to fund five major county capital project categories: \$329.9 million for Transportation Projects; \$27.9 million for Parks, Libraries and Community Centers; \$27.2 million for Support Services Projects; \$32 million for Community Impact Projects; \$82 million for Public Safety Projects; \$4 million for the Sheriff’s Office and \$46 million for Countywide Projects. Additionally, \$201 million has been allocated for Cities and Joint Projects with the Cities.

Transportation Improvement Plan (TIP) Funds. Three rounds of funding for Cobb County’s TIP were provided by Special Purpose Local Option Sales Tax (SPLOST) revenues, totaling more than \$1 billion over a 20-year period. SPLOST imposes an additional 1% sales tax on top of the state’s 4%, and must be approved by a voter referendum. Each SPLOST for transportation projects were authorized for 48 months during the following periods, along with the associated revenues:

- 1985 SPLOST: July 1, 1985–June 30, 1989, \$278 million
- 1990 SPLOST: April 1, 1991–March 31, 1995, \$322 million
- 1994 SPLOST: April 1, 1995–March 31, 1999, \$480.5 million

Parking Deck Fund. Several other funds operate for specific purposes, including the Parking Deck Fund. The Parking Deck Fund services debt on two county-owned parking garages, with revenues coming largely from charges for services (i.e. parking fees) and occasional transfers from the general fund.

Limit on Tax Allocation Districts. The State of Georgia has placed limits on tax allocation districts (TADs)... “No political subdivision may create a tax allocation district when the total current taxable value of property subject to ad valorem property taxes within the proposed district plus the total current taxable value of property subject to ad valorem property taxes within all its existing tax allocation districts exceeds 10 percent of the total current taxable value of all taxable property located within the area of operation of the political subdivision.” OCGA § 36-44-17

Impacts on Operating Budget

Cobb County develops estimates for the impact capital projects have on the operating budget, which are outlined under each subsection within the capital improvement plan.

Special Districts & Revenue Funds.

A number of special districts and/or special revenue funds encompass Cobb County for various purposes, including the construction and maintenance of capital projects and assets.

- Cumberland Special Services District Fund I (CSSD I)
- Cumberland Special Services District Fund II (CSSD II)
- Six Flags Special Services District (SFSSD)
- Cumberland Community Improvement District (CID)
- Street Light & Sidewalk Districts

Table 13: Special Revenue Funds Revenues, FY 2018–2022

Fund	Fiscal Year				
	2018	2019	2020	2021	2022
Parking Deck	883,894	619,728	631,547	822,113	697,495
Street Light	3,176,456	6,164,125	6,181,503	4,086,934	5,952,604
Six Flags	1,215,170	1,107,596	1,003,183	958,870	925,261
CSSD 1	3,564,325	2,885,121	2,584,929	3,757,878	3,740,545
CSSD 2	7,135,628	8,362,323	7,461,299	6,810,521	6,569,290
Stadium Capital Maintenance	1,447,011	1,325,593	1,363,961	1,385,397	1,276,333

Table 14: Special Revenue Funds Expenditures, FY 2018–2022

Fund	Fiscal Year				
	2018	2019	2020	2021	2022
Parking Deck	1,174,957	1,125,800	1,178,625	1,023,507	1,014,401
Street Light	5,492,427	5,451,952	5,247,553	5,110,361	5,038,949
Six Flags	–	–	–	–	–
CSSD 1	1,547,644	900,000	1,527,827	619,277	–
CSSD 2	–	–	–	–	–
Stadium Capital Maintenance	–	–	–	–	–

Greenville, SC

- Greenville Population (2022): 72,310
- Greenville County Population (2022): 547,950

Similar to Charlotte, the City of Greenville has adopted a significant pay-as-you-go policy toward financing capital projects. In many years, a plurality of the capital projects are funded through the general fund or other funds, with bonds and other financing sources playing a smaller role in the capital budgeting process compared to other cities (depending on the fiscal year). The city's outstanding debt at the end of FY 2022 was \$144.3 million, a 30% increase from the previous year. A large portion (\$51.9 million, or 44%) of the city's debt falls under the City of Greenville Public Facilities Corporation, a component unit of the city which has recently issued a number of revenue bonds for projects such as a downtown parking garage, as well as other revenue bonds (\$20.7 million, or 17%) for business-type activities such as sewer and stormwater. The city itself has relatively low debt in the form of general obligation bonds dedicated to governmental activities, with only \$2.7 million (2.3% of the total debt) outstanding at the end of FY 2022.

Capital Budget Revenues

Table 15: Greenville Capital Budget Expenditures, FY 2018–2022

Revenue Source	Fiscal Year				
	2018	2019	2020	2021	2022
Capital Projects Fund	80,000	132,000	700,000	680,000	1,500,000
Enterprise Funds/Bonds	4,250,000	7,588,190	9,375,000	5,025,000	4,185,000
General Fund	7,508,254	5,000,742	8,957,298	8,332,905	12,573,640
General Obligation Bond	-	-	-	-	32,000,000
Parking Fund	-	-	3,950,000	250,000	1,250,000
TIFs	2,039,399	2,705,472	3,747,887	4,162,164	-
Tourism Fund	5,220,000	7,625,000	5,645,000	775,000	4,175,000
Total	19,097,653	23,051,404	32,375,185	19,225,069	55,683,640

Capital Budget Expenditures

Debt by Fund

Legal Debt Limit. Title 5, Chapter 21, Article 1 of the Code of Laws of the State of South Carolina states that “the constitutional debt limit of a municipality may not exceed 8 percent of the locality’s assessed valuation. Debt in excess of the limit must be authorized by a majority of qualified electors;” however, this limit only applied to general obligation debt, and is not applicable to revenue bonds, TIFs, leases, or other forms of indebtedness (FY 2022 Budget, p. 278).

Tax Increment Funds

The City of Greenville maintained three TIFs in recent years: the Downtown Infrastructure Fund, West End Tax Increment Fund, and Viola TIF. The Downtown Infrastructure Fund was established in 1986 and

Table 16: Greenville Capital Budget Expenditures, FY 2018–2022

Project Category	Fiscal Year				
	2018	2019	2020	2021	2022
Economic Development	4,554,248	6,235,196	6,276,634	4,197,867	4,518,994
General Government	5,000	-	1,535,000	2,000,000	5,000,000
Infrastructure	7,350,000	10,250,190	16,975,000	8,025,000	34,135,000
Parks and Recreation	5,675,764	5,497,675	3,696,078	3,140,898	10,278,078
Public Safety	1,017,641	1,068,343	3,892,473	1,861,304	1,751,568
Total	18,602,653	23,051,404	32,375,185	19,225,069	55,683,640

encompassed the central business district, but expired September 2021, after which the remaining funds were transferred to the general fund. Similarly, the West End TIF was established in 1991 and also ended in September 2021. The Viola TIF (also expired, as of 2016) was established via an intergovernmental agreement with the county and school system. Net revenues (gross revenues minus bond payments) from the Downtown and West End TIFs were divided as such: 53.3% to the school district and 19.11% to Greenville County. The remaining 27.09% of net revenues were used “to support the CBD Public Works crew, the Economic Development Project Account that funds public/private partnerships and other capital/planning initiatives” (FY 2021 Budget, p. H-1).

Relationship to Operating Budget

According to the City of Greenville, the Capital Improvement Plan impacts the operating budget in the following areas:

- Pay-as-you-go financing reflected in the Operating Budget, which impacts fund balance or available funds for operating needs;
- Debt service payments on any bond instrument that may be issued to finance capital improvements; and
- Staffing and other operating expenses that may be required once a capital improvement is completed.

Performance Measures & Fiscal Health

The majority of local governments that rely on measures of fiscal health or performance measures related to budget and finance functions often focus on relatively simple measures such as debt ratios (per capita, or relative to the assessed value of the jurisdiction); or, utilize comparative measures of fiscal health such as the 10-point test developed by Brown et al. (1993), which, in addition to per capita debt, assesses factors such as long-term liabilities and debt service as a percentage of total revenues. However, Marlowe et al. (2009) note that “performance measurement and management of capital budgeting is an underdeveloped function relative to local government services” due to the fact that many “key objectives are not defined, and many of the main output and outcome measures are underspecified and/or not routinely collected” (p. 245). Further, “it is difficult to measure the true outcomes that capital planning and budgeting seek to advance, such as promoting economic development and enhancing citizen quality of life” (Marlowe et al., 2009, p. 245). As such, many of the measures used by state entities often relate to factors such as project management (e.g. capital projects completed on time, and/or under budget), or safety and reliability (e.g. traffic fatalities or outages for a utility system).

The Tennessee Comptroller of the Treasury (2023) outlines several measures of fiscal health, two of which could pertain to capital financing in the short-and long-term, respectively. First, the Comptroller’s Office calculates *current liabilities as a percent of cash*, which could be impacted by factors such as bond anticipation notes or other short-term liabilities payable within a fiscal year. Current liabilities exceeding 75% of cash is deemed a “distress concern,” while liabilities between 25–75% are a matter of “slight concern,” and those less than 25% are classified as “no concern.” Additionally, the Comptroller calculates *debt as a percentage of assessed value*, classifying anything below 8% as “no concern,” between 8–10% as “slight concern,” and any percentage over 10% as a “distress concern.”

As of the end of fiscal year 2022, Hamilton County had just under \$439 million in outstanding debt (including both principal and interest). With an estimated total taxable assessed value of \$13.64 billion for Hamilton County, the debt ratio of 3.2% falls well within the Comptroller’s classification of “no concern.” Similarly, the City of Chattanooga had approximately \$393.4 million in gross indebtedness at the end of fiscal year 2022. With an estimated taxable assessed value of \$7.7 billion within the city limits, a ratio of 5.1% also falls within the category of “no concern.” Chattanooga’s FY 2022 ACFR notes that the charter restricts the city to a debt ratio of 10 percent of the assessed value of property, and also calculates the ratio of “self-supporting debt,” which totals only \$116.4 million (compared to the \$393.4 million in gross indebtedness), which represented only 1.5% of the city’s assessed value of property (City of Chattanooga, 2022 ACFR, p. xix).

Case Study Examples of Value Capture Techniques

A number of resources provide case studies which offer insight into the ways city and county governments are utilizing these innovative funding and financing mechanisms for capital projects. Of note, Chen and Bartle (2017) (link, via ICMA) and Chen and Bartle (2022) (included in the appendix) provide a number of examples where local governments around the country are now optimizing these strategies for necessary infrastructure improvements and upgrades. Additionally, the Federal Highway Administration, Center for Innovative Finance Support provides over 50 case studies and resources geared towards surface transportation funding and value capture techniques.

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Local Sales Tax Rates: City vs. County Differences

Table 17: Local Option Sales Taxes: Differing City vs. County Rates

City	County	Sales Tax Rate:	
		City	County
Rocky Top	Campbell	2.75%	2.25%
Ashland City	Cheatham	2.75%	2.25%
Kingston Springs	Cheatham	2.75%	2.25%
Pegram	Cheatham	2.75%	2.25%
Oakland	Fayette	2.75%	2.25%
Rossville	Fayette	2.75%	2.25%
Piperton	Fayette	2.75%	2.25%
Pulaski	Giles	2.75%	2.5%
Loudon	Loudon	2.5%	2.0%
Adamsville	McNairy	2.75%	2.25%
Sweetwater	Monroe	2.75%	2.25%
Wartburg	Morgan	2.75%	2.0%
Oliver Springs	Morgan	2.75%	2.0%
Sunbright	Morgan	2.75%	2.0%
Oak Ridge	Roane	2.75%	2.5%
Oliver Springs	Roane	2.75%	2.5%
Dunlap	Sequatchie	2.75%	2.25%
Memphis	Shelby	2.75%	2.25%
Arlington	Shelby	2.75%	2.25%
Bartlett	Shelby	2.75%	2.25%
Collierville	Shelby	2.75%	2.25%
Germantown	Shelby	2.75%	2.25%
Millington	Shelby	2.75%	2.25%
Lakeland	Shelby	2.75%	2.25%
Carthage	Smith	2.75%	2.0%
Gordonsville	Smith	2.75%	2.0%
Dover	Stewart	2.75%	2.25%
Kingsport	Sullivan	2.5%	2.25%
White House	Sumner	2.75%	2.25%
Covington	Tipton	2.75%	2.25%
Atoka	Tipton	2.75%	2.25%
Munford	Tipton	2.75%	2.25%
Sparta	White	2.75%	2.25%

Nashville Metro General Reserve (Four Percent) Fund Policy

5.04.015 - Appropriations from general fund reserve fund (four percent fund). ([Link, via MuniCode](#))

- A. Any resolution of the metropolitan council which appropriates funds from the general reserve fund shall contain in the body of the resolution information which justifies the expenditure of such funds. Such information shall include, but is not limited to, the following:
 1. Cost of equipment, fixtures, furnishing or repairs;
 2. Cost of construction;
 3. Age of equipment or furnishings which are being replaced;
 4. Expected life of equipment or furnishings being acquired;
 5. Any such other information as may be necessary and appropriate.
- B. The council shall not consider any resolution requesting funds for the renovation of the office of an elected official until such elected official has been in office a period of ninety days.
- C. Further, the council shall not approve the purchase of duty uniforms from the general fund reserve fund unless such uniforms have a use of ten years or longer.
- D. Notwithstanding any other ordinance or provision to the contrary, no expenditure for any item shall be reimbursed from the general fund reserve fund to the operating budget for any department when such items have been purchased without prior appropriation by the metropolitan council, except emergency purchases which have been approved by the director of finance.
- E. The metropolitan council shall not consider any resolution appropriating funds from the general fund reserve fund (four percent fund) for the benefit of any department, agency, board or commission of the metropolitan government which has received an appropriation from such fund unless the department, agency, board or commission:
 1. Has expended the funds previously appropriated for the purpose appropriated; or
 2. Demonstrates a reasonable time to expend such funds; and
 3. Discloses the status of prior appropriations.
- F. The information sheet and any required purchase requisitions must be executed by the appropriate department head, official or any other elected official of the metropolitan government.
- G. When funds requested pursuant to this section are to be used exclusively within a single council district, written notice shall be given to the councilmember representing that district at least one week before the resolution appropriating funds is filed with the metropolitan clerk. Included in this notice should be the information sheet for the expenditure or equivalent information.

(Ord. BL2018-1142 § 1, 2018; Ord. 94-1209 § 1, 1994; Ord. S90-1407 § 1, 1991; Amdt. 3 to Ord. 86-1534, 3/17/87; Amdt. 2 to Ord. 86-1534, 2/3/87; Amdt. 1 to Ord. 86-1534, 2/3/87; Ord. 86-1534 § 1, 1987)

Census of Governments Capital Outlay Function Codes

The following categories were included in the capital outlay estimates for municipal and county governments and derived from the U.S. Census Bureau's *Government Finance and Employment Classification Manual*. It should be noted that only *Construction* (code "F") and *Land and Existing Structures* (code "G") were included in these outlay estimates, and expenditures directed towards *Equipment* (code "K") were excluded from these totals. Additionally, these categories were selected as those closest to the functional responsibilities of Chattanooga and Hamilton County, and excluded capital expenditures related to categories such as hospitals, toll roads, or local water supply, as those are not the primary responsibility of these respective local governments. Similarly, while education is under the purview of county governments in Tennessee (aside from municipalities with school systems and a handful of special districts), it was excluded from this report and the capital expenditure categories below.

- Correctional Institutions (04)
- Other Corrections (05)
- Local Fire Protection (24)
- Judicial and Legal (25)
- Central Staff Services (29)
- General Public Buildings (31)
- Regular Highways (44)
- Housing and Community Development (50)
- Libraries (52)
- Parking Facilities (60)
- Parks and Recreation (61)
- Police Protection (62)
- Protective Inspection and Regulation NEC (66)
- Sewerage (80)
- Solid Waste Management (81)
- Public Mass Transit (89)
- Other and Unallocable (94)

Case Studies in Innovative Infrastructure Financing

Chen and Bartle (2022) provide a succinct chapter with brief case studies on local governments' use of innovative financing techniques. As such, Chapter 5 (*Case Studies in Innovative Infrastructure Financing*) from their book, *Innovative Infrastructure Finance: A Guide for State and Local Governments*, is included below.



5

Case Studies in Innovative Infrastructure Financing

This chapter presents in-depth case analyses of six various types of innovative infrastructure financing with the goal of offering best practices and lessons for state and local government professionals in considering the use of innovative infrastructure financing. The first section discusses value capture. The second section presents state infrastructure banks. The third section describes Green, Social and Sustainable Bonds. The fourth section discusses Public-Private Partnerships. The fifth section presents privatization. The last section describes crowdfunding. Each section includes a concise description of each method, the use of this method, two or more cases illustrating the method, as well as lessons learned.

5.1 Value Capture

5.1.1 Description

Value capture refers to any strategy where a public agency “captures” a portion of an increase in property values resulting from an infrastructure improvement to help pay for the infrastructure itself (U.S. DOT, 2019). Value capture often takes different forms. Across the U.S., the most common forms of value capture are developer contributions, special assessment and tax districts, tax increment financing (TIF), joint development, and naming rights. Value capture is widely considered as one potential new revenue source

that can be tapped to offer funding for a variety of state and local infrastructure projects (Zhao et al., 2012). This section focuses on one of the most important mechanisms of value capture—joint development. According to Zhao et al. (2012), joint development is “a formal arrangement between the public sector and private entities such that the private entities share some costs of infrastructure improvement or contribute some benefits back to the public sector based on a mutual recognition of the benefits of such infrastructure improvement” (p. 5). There are three basic characteristics in joint development (Renaissance Planning Group, 2014, pp. 7–8):

- A joint development project is mutually beneficial to its public and private sector participants.
- Joint development is opportunistic and takes advantage of specific opportunities at a location and the specific objectives and capabilities of the public agency and private developers involved.
- Joint development involves a financial transaction in which the project will include revenue or cost sharing between the public agency and a private partner.

In practice, the most common joint development arrangements range from ground leases to air-rights development, transit station interface, or connection improvement. Public transit agencies have heavily used joint development to capture some of the economic value created by the transit systems and use the funds to help finance transit operations (so-called Transit-Oriented Development [TOD]). In addition to transit, joint development agreements have also been used to implement highway improvements and parking projects. Three primary benefits of joint development include that it produces a new revenue source for the public agency, that it shares the cost of public infrastructure construction and operation between public and private sectors, and that it may stimulate transit ridership (Renaissance Planning Group, 2014).

5.1.2 Joint Development in Miami

Project: Miami-Dade County, Florida, is one of the few governments in the U.S. with extensive experience in implementing joint TOD projects. This county planned and constructed the Metrorail system with a large amount of land surrounding the transit stations under the control of Miami-Dade Transit (MDT).

In 1994, a joint development project in the Dadeland North Metro-rail Station was initiated. Private developers were attracted by the proximity of Dadeland North Station to the nearby Dadeland Mall and the general absence of available land in the area and approached MDT about developing the Dadeland North Station area. The private developers and MDT agreed to a 99-year land lease in 1994. Under the joint development agreement, MDT receives a guaranteed minimum land rent and a gross rent payment based on the percentage of development revenues: 5% of the first \$7 million, and 5.5% of above \$7 million. MDT can penalize the developers for construction delays (delayed payment \$20,000 per month indexed to inflation.) The joint development agreement specified design specifications for transit access. The following Table 5.1 shows the phases and components of this joint development project.

Lessons Learned: The joint development project in North Dadeland Station generated a significant amount of stable revenue—\$428,021 in 2010. In addition, this project significantly increased transit ridership. The average weekday ridership at the Dadeland North station has approached 5,000 (Silva et al., 2012). Sharing infrastructure improvement costs is another key benefit that MDT received from joint development. Other lessons learned from this joint development project (Renaissance Planning Group, 2014, pp. 32–33):

- The county’s direct control of land surrounding the transit stations reduced political disagreements and layers of administrative approval in the permitting process.

Table 5.1 Dadeland North Station joint development project phases

Phase	Year Opened	Development components
Phase 1	1996	Big Box Retail: 355,000 sq. ft TOD Retail: 9,600 sq. ft Other Retail: 15,600 sq. ft Parking Garage: 1,487 spaces
Phase 2	2000	Apartments: 48 units
Phase 3	2005	Apartments: 110 units Town homes: 10 units Retail: 6,400 sq. ft Parking Garage: 214 spaces
Phase 4	Proposed	Office: 127,000 sq. ft Retail: 8,400 sq. ft Parking Garage: 362 spaces

Source Renaissance Planning Group (2014, p. 30)

- Conduct a market analysis to identify a list of projects where joint development is suitable.
- Develop standard protocols and teams to guide the joint development project from concept to construction.
- Be realistic about the market risk of land development.

In sum, the Dadeland North Station project demonstrates that joint development can be a win-win-win. The private developers have an opportunity to build profitable projects next to transit while the local transit agency obtains stable revenues and additional transit ridership as well as support for economic development. Miami-Dade County transit agency's experience highlights the importance of sound predevelopment planning and marketing and being very clear about goals for the development site.

5.2 State Infrastructure Banks

5.2.1 Description

State infrastructure banks (SIBs) use seed capitalization funds from federal transportation aid and state-matching funds to get started and offer low-interest loans and non-grant forms of credit enhancements to public and private sponsors of state and local transportation projects (Chen, 2016). The state of Ohio was one of eight states selected for designation under the SIB pilot program authorized by the 1995 National Highway System Bill. The Ohio SIB was initially capitalized with \$87 million in Federal Title XXIII Highway Funds, a match fund of a \$40 million authorization of state general revenue funds from the Ohio State Legislature, and \$10 million in state motor fuel tax funds (Ohio DOT, 2021). The objective of the Ohio SIB is to maximize the use of federal and state funds to make direct loans to eligible projects. Repayments are made to the Ohio Department of Transportation (Ohio Department of Transportation, 2011) and then re-loaned to subsequent projects, hence creating a SIB revolving loan program. In Ohio, eligible SIB loan applicants include any public entity, such as counties, cities, villages, townships, boards or commissions, regional transit, and port authorities. The Ohio SIB is one of the most active SIBs in the nation. As of September 30, 2020, the Ohio SIB has issued 252 loans totalling \$674.3 million to help local governments build various kinds of transportation projects since the inception of the program in 1997 (ODOT, 2021).

5.2.2 Using SIB for Economic Development

Project: In 2009, the City of Gahanna, Ohio, planned to build an overpass over the Columbus Outerbelt (I-270) to connect an isolated section of Gahanna with the rest of the community. This project was expected to be a boon for local economic development efforts, as the now-connected portion of the town was the last large, undeveloped land available for development. The total project cost was initially estimated to be \$8,147,500. The city's involvement with the Ohio SIB program was facilitated through the regional metropolitan planning organization, the Mid-Ohio Regional Planning Commission (MORPC), which allocated attributable federal funds. Each year MORPC receives approximately \$33 million of federal funds to use for transportation projects in central Ohio. These funds come from the federal transportation programs: Surface Transportation Program, Congestion Mitigation and Air Quality Improvement Program, and Transportation Alternatives Program.

In 2010, the Ohio SIB awarded a five-year short-term loan of \$6,347,508 to the city of Gahanna. The loan interest rate was 3%. The loan was used for the construction of a new 3,000-foot roadway on State Route 317 (Ohio Department of Transportation, 2011). The project included the construction of a new structure over I-270, which tied a new roadway into a Tech Center on the north side of I-270. MORPC handled the bulk of the administrative work related to the SIB loan and paid its share with federal funding. In 2015, the SIB loan was paid off by MORPC and the city of Gahanna.

Lessons Learned: The SIB loan made it possible for the city of Gahanna to complete the work years ahead of the next round of attributable federal funds. In addition, it allowed the city to access capital funds below market interest rates and save on its borrowing costs. To secure SIB loans, state and local government borrowers must submit loan applications and negotiate the structure of the loan term. Sometimes, local borrowers need to collaborate with regional or metropolitan planning organizations on the loan application. It is also important to government applicants to show the public benefits of sponsored projects and their ability to repay the loan. Finally, if a project is funded with federal funds in the SIB program, all Federal regulations (e.g., environmental requirements) must be followed.

5.3 Green, Social and Sustainable Bonds

5.3.1 Description

Green bonds are bonds that finance specific “green” projects that have significant environmental benefits. Entities issuing the bonds (issuers) agree to provide additional disclosures to potential investors to demonstrate alignment with four components of Green Bond Principles (GBP) as articulated by the International Capital Market Association:

- Use of proceeds: The proceeds of the bonds are utilized for eligible green projects (such as described below) and are described in the legal documentation. The projects should be assessed and, where feasible, quantified by the issuer.
- Process for project evaluation and selection: The issuer should communicate to investors the environmental sustainability objectives of the projects, the process of selection, and information on procedures by which the issuer identifies and manages perceived social and environmental risks of the projects.
- Management of proceeds: The proceeds should be tracked by the issuer and, if possible, the use of the proceeds be verified by an external auditor.
- Reporting: Issuers should provide regularly updated information on the use of proceeds. Most issue an annual report. The annual report should include a list of the projects funded by green bonds, a description of the projects, the amounts allocated, and their impact. (International Capital Market Association, [2021a](#)).

The GBP provide broad categories for suitable green activities:

- Renewable energy,
- Energy efficiency,
- Pollution prevention and control,
- Environmentally sustainable management of living natural resources and land use,
- Terrestrial and aquatic biodiversity conservation,
- Clean transportation,
- Sustainable water and wastewater management,
- Climate change adapted products, production technologies and processes,
- Green buildings (International Capital Market Association, [2021a](#)).

The first green bond, a Climate Awareness Bond, was issued in 2007 by the European Investment Bank. Since then, the green bond market has been expanding rapidly. In 2020, \$269.5 billion were issued worldwide, compared to \$104 billion in 2015. The cumulative issuance in 2020 surpassed \$1 trillion (Climate Bonds Initiative, 2021b). The U.S. was the largest in national rankings at over \$50 billion, followed by Germany, France, and China. The largest institutional investor was Federal National Mortgage Association (Fannie Mae). Several rail transport operators were prominent issuers, including the New York Metropolitan Transportation Authority, Los Angeles County Metropolitan Transportation, San Francisco Bay Area Rapid Transit District, France's national railway operator SNCF and Japan's fast train network operator JRRT (Ibid.). Other large U.S. issues include the Power Authority of the State of New York, Florida Development Finance Corporation, Illinois Finance Authority, San Francisco Public Utilities, San Diego County Water Authority, and Los Angeles County Public Works (Nastu, 2021). Some experts believe that green bonds are currently more limited by supply rather than demand (National Academies of Sciences, Engineering, and Medicine [National Academies], 2021, p. 15). If so, this market will continue to grow for the foreseeable future.

Social bonds raise funds for projects with positive social outcomes. Sustainability bonds are bonds where the proceeds will be exclusively used to finance a combination of green and social projects. Sustainability bonds follow the Sustainable Bond Guidelines (SBG), also established by the International Capital Market Association. These guidelines use the same four components for green bonds listed above (International Capital Market Association, 2021b). The first U.S. tax-exempt sustainability bonds were issued by the Massachusetts Bay Transportation Authority in 2017 (see case discussion below).

5.3.2 Experience with Green, Social and Sustainable (GSS) Bonds

GSS bonds are attractive to both investors and issuers. Investors may wish to invest in projects that fund environmental and social projects. They may also believe that GSS bonds signal lower environmental, social, and governance risk and therefore indicate stronger management and higher long-run returns. Or they may simply be interested in broadening their portfolios (National Academies, 2021, pp. 7–8).

Issuers are attracted to GSS bonds because they improve their reputation for environmental sustainability and perhaps their environmental performance. Since 2013, the Climate Bonds Initiative has issued a Climate Bonds Taxonomy that identifies projects across eight industries that reduce carbon initiatives. The projects fall into one of four categories: automatically qualified, potentially qualified pending meeting other criteria, not qualified, and more information needed (Climate Bonds Initiative, 2021a). Bond issues that automatically qualify likely entail less expense for issuers to bring them to market and generate more interest from investors.

There is no consistent evidence that green bonds carry a premium. There is research on both sides of the issue. “This is not surprising; given that financial markets are incredibly dynamic, no two bonds are identical, and the definition of green is highly variable, it is exceedingly difficult to obtain sufficient data to quantitatively demonstrate a pricing benefit for green bonds” (National Academies, 2021, p. 14).

The main weakness of GSS bonds is the additional monitoring and reporting costs. These costs may be one-time costs to develop the government’s sustainability goals and to link specific projects with these goals. They may also include process development, prospectus development, and establishing a tracking system to ensure that bond proceeds are spent on the designated projects. “After the initial cost of developing organizational capacity to issue green bonds ... preparing the required disclosures to issue green bonds cost about \$10,000 in staff time” (National Academies, 2021, p. 1). While this is not a large amount for a large issuance, it can be prohibitive for smaller debt issues.

Another concern with green bonds is what is known as “greenwashing,” which involves misleading potential investors about the environmental impacts of the project. These allegations can damage the issuer’s reputation, potentially for the long term. This underscores the importance of following the components of green bonds, providing truthful disclosures and regular annual reports.

One important nuance for GSS municipal bonds is their tax-exempt status. In general, this is attractive to U.S. taxpayers and leads to lower interest rates for municipal bonds. However, the tax advantage is not of importance to international investors, who are less likely to be interested in tax-free bonds because of their low return and inability to enjoy the tax benefit. Instead, a municipality considering a GSS bond may want to consider a taxable issuance which may attract a wider pool of international investors (National Academies, 2021, p. 18).

5.3.3 Green Bonds for Sewer and Stormwater Repair Projects

The City of Saint Paul, Minnesota, issued Minnesota's first green bond in 2015 and became one of the first green bond issuers in the nation. The city owns and maintains 804 miles of sanitary sewers and 450 miles of storm sewers. Most of the city's sanitary sewers are at least 50 years old, and many are 75–125 years old, so there was a long-term need for improvements. The proceeds from the green bonds were spent on sewer repairs, stormwater quality improvements, and the rehabilitation of sewers and tunnels.

The city had traditionally used tax-exempt municipal bonds to fund capital projects for the city. The sewer utility's capital projects clearly have an environmental impact. The city committed to make sustainability and green initiatives a priority, so green bonds were a logical option. The city began to explore the potential issuance of green bonds as part of its annual infrastructure debt financing program in late 2014 (City of Saint Paul, Office of Financial Services, 2016). By working with the city's financial advisor, the green bond designation was applied to the sewer revenue bond. In 2015, the city's \$8.7 million Sewer Revenue Green Bonds were the first sold in Minnesota. And since then, the city has issued green bonds every year for sewer projects (City of Saint Paul, Office of Financial Services, 2020). These bonds are secured solely by revenues of the city's sewer utility.

The city established formal processes to ensure that the program complies with the four components of the GBP: the proper categorization and use of proceeds, project evaluation and selection, management of proceeds, and reporting. The green bond reports are posted on the city's website and provide potential investors information regarding the projects financed and their environmental impact. A detailed listing of the specific projects is available in the annual report.

The city seeks to be a leader in sustainability and is now focusing on carbon dioxide reduction activities such as “energy efficiency and conservation, clean energy supply, alternative fuels and transportation options, recycling and waste reduction, urban reforestation and natural resources management, and water resources management” (City of Saint Paul, Office of Financial Services, 2016). The city adopted a “Climate Action and Resilience Plan” in December 2019, which has the goal of achieving carbon neutrality in city operations by 2030. As such, green bonds are an important tool for the city to meet the financing goals of repairing infrastructure and meet environmental policy goals.

Lessons Learned: It is important to ensure compliance with the four components of the GBP and to regularly provide a report for current and potential investors. The city's green bond report format is similar from one year to the next, so after the first year, it was mostly a matter of updating the report. It was also important initially that the city worked with municipal financing experts to identify and comply with the best practices of a green bond sale. Subsequent sales followed a similar pattern, so it did not take as much staff time after the first time.

It is important that the city had a long-term commitment to environmental and climate action policies over different Mayoral administrations, as this allowed for consistency in policy, which is important to investors.

5.3.4 Sustainability Bonds for Transit Projects

Projects: In 2017, the Massachusetts Bay Transportation Authority (MBTA) issued \$99 million of sustainability bonds, the first tax-exempt sustainability bonds issued in the U.S. “Before issuance, the MBTA formed an internal Sustainability Committee made up of internal stakeholders, directors, and managers to lead the drafting of the Sustainability Bond Framework” (National Academies, 2021). The Framework used the Sustainability Bond Guidelines of the International Capital Management Association. Projects fit into either the environmental (green bonds) category or the social bond category:

Environment

- Built environment: Respecting, protecting, and improving the built environment and enhancing the quality of the travel experience.
- Capacity: Reducing emissions from personal vehicle trips by increasing capacity to carry passengers and increasing the attractiveness of public transit by offering more frequent, reliable, and comfortable service.
- Carbon, energy, and climate resilience: Reducing carbon emissions and preparing for the potential impacts of climate change and extreme weather.
- Natural environment: Respecting, protecting, and enhancing the natural environment and its contribution to the quality of life.
- Noise: Managing and controlling transport-related noise and vibration.
- Pollution prevention: Proactively managing activities to minimize and control pollution.
- Resource management: Using resources wisely and minimizing waste.

Social

- **Affordability:** Balancing customers' means, particularly low-income riders, with the organization's financial constraints.
- **Accessibility:** Operating an inclusive system with facilities designed to accommodate a diverse customer base.
- **Availability:** Ensuring that communities within the service area have reasonable, equitable access to the system.
- **Equity:** Offsetting social and environmental burdens experienced by populations or communities within the service area and/or striving for an even distribution of benefits and burdens across the diverse modes, customer bases, and service area.
- **Safety:** Protecting the well-being of passengers, operators, and the general public.
- **Workplace environment:** Maintaining a safe, empowering, and satisfying workplace environment for MBTA and affiliated employees (MBTA, 2018, p. 5).

The committee included representatives from several MBTA departments and sought the advice of external stakeholders. The committee selected projects from the MBTA's capital improvement program using a project selection process guided by the Framework. The project funded over 100 projects ranging in cost from \$100,000 to \$9.8 million for projects addressing priorities such as climate resiliency, rider capacity, pollution prevention, and accessibility. The MBTA publishes an annual Sustainability Bond Progress Report.

Lessons Learned: The bonds were more favorably received by the market than a traditional MBTA bond offering at the same time. "In fact, six of the eight banks that participated in both offerings submitted more aggressive bids on the sustainability bond... This increased demand translated into a lifetime interest savings of approximately \$2.60 per \$1,000 issued" (National Academies, 2021, p. 25). The bond was recognized as *The Bond Buyer's* 2017 Northeast Regional Deal of the Year and a finalist for the National Deal of the Year award.

As the first such offering, it was important that the MBTA did careful up-front work to ensure the projects met the Sustainability Bond Guidelines, ensuring investors that the funds would indeed be used for projects meeting the Guidelines. This established that sustainability bonds could address social and environmental benefits, and that there is a demand by investors for sustainable bonds. In the spring of 2020, the MBTA issued its second sustainability bond for \$45.7 million for more than 50 projects.

5.4 Public-Private Partnerships (P3s)

5.4.1 Description

In the U.S., the growing demands for upgrading and expanding public infrastructure systems and constraints on public resources have led to calls for more private investment in public infrastructure. Public-Private Partnerships (PPPs, or P3s) are commonly defined as a contractual arrangement in which governments form partnerships with the private sector to design, finance, build, operate, and maintain infrastructures such as toll roads, water supply facilities, and wastewater treatment plants (US DOT, 2012). Building on a contractual agreement, the resources, assets, and skills of public and private sectors are shared in delivering a facility for the use of the general public. Moreover, through this agreement, each sector shares in the risks and rewards potential in the delivery of the facility.

Many different types of P3s exist. They are often characterized by dividing the responsibility for the five major functions of project development (design, build, operate, maintain, and finance) between the government and the private entity. Yescombe (2012) identifies the key characteristics of P3s as:

- A long-term contract between the public and private organizations.
- Private assumption of one or more of the responsibilities and risks of designing, building, operating, maintaining, and financing a project.
- Reimbursement of the private party by the public agency for the investment and risk of the project.
- Ownership of the facility remaining with the government or, as agreed upon, being transferred at a specified time.

P3s are not new to the U.S.; however, they are used less in the U.S. compared with other countries such as the U.K. and Australia. One main reason for the limited growth of P3s in the U.S. is due to the unique tax-exempt municipal bond market, which allows state and local governments to borrow at lower costs in the private capital market (US CBO, 2020). In recent years, due to the increasing gap between infrastructure demands and available public funding, there has been a growing interest in P3s. As of August 2018, 36 states had authorized P3-enabling legislation. In a 2016 survey by the ICMA (2017), 119 of 601 governments (19.8%) responded that they actively used P3s. Typically, those governments that utilized P3s tended to be larger, perhaps because the complexity of P3s requires a high degree of

expertise. The resources to learn about the benefits of and the challenges to P3 have grown rapidly.

5.4.2 Portland Transit Extension

Project: A P3 was used to build an extension of the Metropolitan Area Express (MAX) light rail line to link the urban core of Portland to the Portland International Airport (PDX). Three other transit stations were part of the project. The MAX system is operated by TriMet, a public agency that provides bus and rail transit in the Portland metropolitan area, and PDX is operated by the Port of Portland. TriMet and PDX joined with the Portland Development Commission (an independent city economic development authority) to agree to a P3 with Bechtel Enterprises.

Bechtel provided funding for 23.1% of the project's \$128.8 million construction and engineering costs and received a sole-source, no-bid contract to design and build the extension. In return, Bechtel received the right to develop a mixed-use development near the new MAX station. The development included office space, retail, hotels, and a gas station. The three public agencies paid for the remainder of the rail link construction and engineering costs. Transit fares partially offset operating costs. No federal funds were used. The project was completed more than 10 years earlier than had been planned. It is estimated that the public costs to develop the extension were reduced by about 23% by the P3 (Gosling & Freeman, 2012, p. 11). The extension improved transit access to the airport and encouraged greater use of transit for airport trips. This example demonstrates how a project can leverage values in ways that could not be done without a private sector partner. Private developers can use new transit stops for retail, office, or commercial development and often extract more value than public agencies typically can. Public agencies benefit from completing the projects faster and at a lower cost. In this case, the improved airport access was an additional benefit for the region. It required the city to agree to waive bidding requirements and a sole-source contract with Bechtel. Public participation did not occur until after the negotiation and design, and so was less influential. A high level of trust between the partners was important.

Lessons Learned: P3s are not a panacea to address infrastructure challenges, but their ability to leverage private sector capital and expertise can help governments confront complex challenges and accelerate project completion. However, building a successful partnership between the public and private sectors is inherently challenging. It is important to balance the profit goal

of private companies with the public interest and create a win-win for both parties. A successful P3 should allow the public sector to advance public value and allow the private party to secure its required return. Maintaining a high level of trust between the partners is crucial to implement P3s. To further protect public interests in P3s, engaging political leaders and the general public in the early project development stage is recommended, though not necessary as demonstrated in the Portland case.

5.5 Privatization

5.5.1 Description

Compared to Public-Private Partnerships (P3s), privatization is further along the continuum away from publicly provided services. As discussed above and in the previous chapter, P3s include several arrangements involving private participation in the five key phases of designing, building, operating, finance, and maintaining a facility. Privatization involves greater private participation in these phases. For example, in building a *new public facility*, some possible privatization arrangements include:

- Design-Build-Operate-Transfer (DBOT): The firm designs and builds a new facility, operates it for an agreed upon time, then transfers it to the government. Financing may be public, private, or shared.
- Design-Build-Own-Operate (DBOO): Like DBOT, except the firm owns the facility under a long-term contract or franchise agreement and assumes the risk and keeps the profit (Savas, 2000, pp. 244–247).

In the situation where an *existing public facility* is rehabilitated or expanded, the firm may lease or buy the facility from the government, then operate it and collect user fees under a concession agreement for a specified time. Typically, the level and rate of increase of the user fees are specified in the agreement, as is the level of service and/or maintenance spending.

The key distinction between P3s and privatization is that the private partner assumes partial or full ownership of the facility. While it is common for private investors or individuals to hold bonds backing an infrastructure project, this is not the same as holding equity which entitles investors to profits after the costs and required reserves are paid. “Under the municipal bond model, the private sector has one concern – full and timely payment of bonds. Under the private equity model, the private sector hopes

that revenue will exceed forecasts and yield returns greater than expected” (Ortiz & Buxbaum, 2008, p. 136).

One of the key concerns of private firms in these situations is risk. There are many dimensions of risk in these situations. Costs of construction or operation may be higher than expected for many reasons, and revenues may be less either because of lower-than-expected demand, competition, or contractual restrictions on raising fees. There may also be environmental/regulatory risk caused by unexpected environmental damage leading to regulations affecting the firm’s profits. Changes in technology may also affect a long-term project (Page et al., 2008; Savas, 2000). The higher the risk for the firm, the less attractive the investment, and they will want to push these risks back on to the government or the public. In some cases, governments can assume risks more easily than firms because they control factors such as regulation and user fees. When the government can assume this risk, it can lead to favorable conditions for a mutually beneficial agreement.

The longer the agreement term, the lower the risk for the concessionaire, especially if they can structure the debt in a favorable way. Long-term investments in U.S. infrastructure are particularly attractive to some investors, such as pension funds and endowments, because these investments have a similar long-term focus with an emphasis on stable returns. In addition, some concession agreements such as toll roads may have inflation escalation clauses which provide effective hedges against inflation, which is also attractive to long-term investors (Page et al., 2008).

Broadly speaking, Donahue (1989 pp. 79–80, emphasis original) articulates the conditions when privatization can be preferred to public provision: *“The more precisely a task can be specified in advance and its performance evaluated after the fact, the more certainly contractors can be made to compete; the more readily disappointing contractors can be replaced (or otherwise penalized); and the more narrowly government cares about ends to the exclusion of means, the stronger becomes the case for employing profit-seekers rather than civil servants.”*

The strengths of privatization then include:

- access to private sector expertise and skills,
- typically, faster construction of new facilities,
- transfer of risk to the party who can most easily bear it, and
- up-front payment to the government.

The weaknesses include:

- complicated contracts and negotiations,

- enforcement and monitoring costs, and
- loss of public control and flexibility.

5.5.2 Chicago Skyway and Indiana East–West Toll Road

Projects: The City of Chicago, Illinois pioneered the privatization of municipal infrastructure with the first long-term lease of an existing toll road in the US. In 2005, the city leased the Chicago Skyway, a 7.8-mile city-owned toll road, for 99 years for \$1.83 billion to the Skyway Concession Company, owned by Cintra Macquarie, a consortium of Australian and Spanish private investors. The city initially hoped to receive about \$900 million, so the actual amount was a huge windfall. The city was able to pay off the outstanding bonds, which led to an upgrading of their credit rating (Ashton et al., 2020). More than half of the traffic on the Skyway comes from out-of-state drivers, reducing the political opposition. While competing routes are congested, the Skyway is not.

The Skyway Concession Company is responsible for operating and maintenance costs and collecting toll revenues. Their business approach is to combine geographically diverse investments into portfolios that can then be packaged and sold to investors. They were able to refinance their short-term variable rate debt with long-term bonds, lowering their risk and increasing the value of these assets. “This generated a \$373 million windfall that it paid out as a distribution to equity investors [which] helped Macquarie generate a 21% internal rate of return for the investors” (Ashton et al., 2020, p. 2).

In 2006, Cintra Macquarie, doing business as Indiana Toll Road Concession Company (ITRCC), also leased the 156-mile Indiana East–West Toll Road for \$3.85 billion for 75 years, about twice as much as anticipated. The Toll Road flows directly into the Chicago Skyway, and so is the main source of Skyway traffic. The ITRCC filed for bankruptcy in 2014, but other Australian investors bought the concession and exited bankruptcy in 2015 (Renn, 2016). Like the Chicago Skyway, most of the traffic on the East–West Toll Road comes from out-of-state drivers, reducing the political opposition. Some of the funds received by the State of Indiana were used for infrastructure aid in the area and other parts of the state, as well as rehabilitating bridges and pavement throughout the state. This also helped generate political support for the deal.

Lessons Learned: These investments were more attractive than expected. This was for several reasons:

- These toll roads provided a predictable cash flow and did not face the high up-front costs and revenue risks faced by a new project.
- U.S. governments are generally stable investments with a reliable legal system that enforces contracts (Ortiz & Buxbaum, 2008). This makes them attractive to international investors.
- Equity investment opportunities in infrastructure attract a new set of investors, “with higher tolerances for risk, which in turn tend to generate more liberal appraisals of asset value” (Garvin & Bosso, 2008, p. 164).

This helps to explain the higher-than-expected sales prices for the Chicago Skyway and the East-West Toll Road, which brought huge windfalls to both governments. These funds can then be used for other important public infrastructure projects. In both cases, most of the tolls are paid by non-residents, reducing political opposition. The proceeds of the sales were also used well politically.

The Skyway was a nonessential service appropriate for privatization because the focus was not on the means of service delivery, but the ends, as opposed to a core municipal service where government cares about both the means and ends.

While this was a successful case, there are some downsides to these sorts of arrangements:

- Long-term leases constrain future options for the government. Many things can change, including technology, demand for goods, political preferences, and desirable performance standards, and it is difficult to anticipate future citizen demands.
- Concessionaires “may cut costs by taking actions that harm a vulnerable segment of society, such as low-income citizens” (Chicago Council on Global Affairs, 2011).
- Long-term leases shift revenues from the future into the present. While this may be good in some cases, in other cases, it may transfer wealth from future generations to current citizens.

5.5.3 Parking Meters in Chicago

Project: In 2008, the City of Chicago, led by Mayor Richard M. Daley, leased its 36,000 on-street meters for 75 years to a Morgan Stanley-led investment group for \$1.16 billion. Only one other qualified vendor submitted a bid. The concessionaire was required to install kiosks for payments to accept credit cards and was given a non-compete clause that prohibited the city from

opening off-street parking lots that would compete with the meters. The use of the funds undermined public opinion. Initially, the proceeds were to be used for reserve funds to replace the \$17 million in annual lost parking meter revenues and a “human infrastructure” fund for community economic development projects. Instead, the payment was largely used to cover the city’s budget deficits due to the Great Recession. Further, the city was required to reimburse the concessionaire for revenue lost due to street closures, street festivals, parking waivers for the disabled, and public works projects interrupting the flow of meter revenue. The city was billed \$55 million in the first two years for these events, and this provision required the city to repurchase rights-of-way for bike lanes, bus rapid transit lanes, or other elements of their sustainability action plan (Ashton et al., 2020). “By 2010, only \$180 million was left” of the \$1.16 billion (Renn, 2016, p. 6).

In most Chicago neighborhoods, parking meter rates increased from 25 cents per hour to \$2 an hour. Downtown parking meter rates increased from \$3.50 in 2009 to \$6.50 an hour by 2013. “The higher rates provoked outrage. Meters broke as they overflowed with quarters before the new credit card-reading kiosks were installed” (Renn, 2016, p. 6). The city was required to take harsh measures against drivers not paying their parking fees with “boot” vehicle clamps and license suspensions which were said to have a “disproportionate impact on low-income and minority drivers, many of whom ended up in bankruptcy owing to their inability to pay” (Ashton et al., 2020, p. 3). In 2008, incoming Mayor Rahm Emanuel said “This was a bad deal for our city and a bad contract for our residents. They city should never have done this deal. Period” (Renn, 2016, p. 4).

Lessons Learned: Mayor Daley gave the city council only three days to vote on the agreement, and it was approved after one hour of debate by a 40–5 vote. Some council members later admitted that they did not have time to review the agreement. “The Chicago inspector general noted that very limited financial information was provided to the council. No financial analysis of the parking meter system’s value was provided. No public comment or expert testimony was given, nor was there any presentation of comparable studies or alternative lease terms” (Calia & Msall, 2011 p. 12). “The rushed approval process created a public perception that the parking meter deal was illegitimate, if not crooked” (Renn, 2016, p. 8). Complicated agreements like this that affect a wide variety of citizens need to be explained and perhaps adapted to achieve consensus and legitimacy.

The financial outcome for the city was a major loss. The funds were not used as planned, and the city lost the revenue stream from meters as the concessionaire was entitled to all of it. The city receives only \$2.5 million

annually from the reserve fund created with the proceeds of the sale, as opposed to \$17 million in meter revenue prior to the agreement. Perhaps the worst part of the agreement for the city was the requirement to reimburse the concessionaire for meter closures in excess of an annual allowance. “Compensation payments for free disabled parking alone reached as much as \$21 million per year” (Renn, 2016, p. 10). The Emanuel administration renegotiated this payment down to \$6.5 million annually, but this obligation, combined with the lost annual meter revenue, made this a net loss of \$35 million for the city. This budget gap will last for the 75 years of the lease.

Parking spaces are not highly “asset-specific”—that is, unlike toll roads that can only be used for one thing, parking spaces can be used for other uses other than parking, and increasingly are—for bus rapid transit lanes, cycling lanes, or converted back to sidewalks. Thus, a long-term agreement that dedicates this land for parking locks the government into using this land in this way for many years. The same is true of similarly flexible urban spaces such as sidewalks and green spaces. Further, the city tied itself into a narrow contract by not being able to provide free or discounted parking to the disabled or any other groups to whom they might want to provide a discount: carpools, busses, or school vans.

5.6 Crowdfunding

5.6.1 Description

Crowdfunding is the sourcing of small amounts of funds from a large group of individuals. It is an emerging method and has become increasingly popular for raising donations for a wide variety of projects. Crowdfunding builds a connection between entrepreneurs who aim at raising the fund (the fundraisers) and the investors (the crowd) who are willing to invest small amounts through an internet-based intermediary (an online platform).

Civic crowdfunding has been successful in funding small municipal infrastructure projects. An estimated \$50 million has been raised by 2019 (Gasparro, 2019). More than 60% of civic crowdfunding campaigns by 2015 had successfully reached or exceeded their target amount (Gasparro, 2015).

There are several popular online platforms for civic crowdfunding: ioby, Spacehive, neighbor.ly.¹ While civic crowdfunding can be used for any project, Gasparro (2015, p. 6) believes that it “has huge potential to be used for municipal infrastructure projects.” Civic crowdfunding is not only a potential source of funding but also a way to gauge civic demand for a project by seeing the response to the crowdfunding appeal. It also typically is more decentralized than the typical state or local decision-making process, as the group of people (who may or may not be citizens of the jurisdiction) can raise funds for a project without having to go through the often slow and cumbersome process of attaining approval and appropriation by a governing body and ensuring the funds are spent on the desired project. Further, other citizens who may not want to pay their tax dollars for the project do not have to. Thus “niche projects” that appeal to relatively small groups but not the government’s broader citizenry can be funded without taxing other citizens.

It is uncommon for civic crowdfunding to supply all the necessary funds for a project. One common approach is for crowdfunding to provide “first dollar” funding. For example, if a city is unsure about the demand for a project, an appeal on a crowdfunding platform can establish whether there is sufficient demand by seeing if the minimum level of funding is achieved. If so, other public funding sources are made available; if not, the project is not approved, and the funds are returned. This can lower the perceived risk to other investors by enduring sufficient demand before committing to the project. “Last dollar” or “last mile” funding calls for support after an initial decision has been made but before the public funds are released. They may also be for enhancements to the project or to enable the project to be implemented faster.

Crowdfunding initially employed a “patronage model” where contributions to the project were seen as an opportunity for people to donate without expecting a return. In the case of the “rewards-based model,” funders receive a nonfinancial reward, often a small gift for their donation. New models are emerging in situations where the project will generate a revenue stream in the future. The “lending model” is like a bank loan, where the funders receive a fixed return. One example is the use of community bonds by the Center for Social Innovation in Canada. The Center has issued bonds backed by mortgages for buildings that they purchased or restored for the use of nonprofit organizations, and the investors have a claim to these mortgages, providing a return on their investment (Young, 2017). Another model is the “investor

¹ Neighborly was created in 2012. It was an online crowdfunding platform specifically focused on raising money for critical fiber broadband infrastructure to communities. However, it was shuttered after failing to secure funding in 2019.

model,” where investors acquire an equity position in the project and receive a variable return like a stock dividend. The Securities and Exchange Commission now allows crowdfunding platforms to bypass securities brokers, making the investor model easier (Young 2017). Some platforms provide detailed information so potential investors and lenders can make informed decisions, reducing their risk and improving the likelihood of investment.

5.6.2 Experience with Crowdfunding

Research on civic crowdfunding has found that projects that meet their funding goal are more likely to do so quickly and tend to attract the support of a group or local businesses (Gasparro, 2015). Projects are also more likely to be approved and to fund a higher percentage if the request is smaller (Mayer, 2019). More recently, government involvement has been found to provide a “certification” that verifies that the funding will be used as promised, increasing the citizen’s trust in a project (Hong & Ryu, 2019). In South Korea, a law passed in 2015 created a process where a government agency would review crowdfunding proposals, select those deemed feasible, and then provide this information on the crowdsourcing platform to potential funders. Examining 110 projects on the Korean crowdfunding platform Wadiz in 2016, Hong and Ryu (2019) found that government support for a project increased the success in achieving project funding goal by 64% and increased the amount funded by 55%. This suggests that, properly done, there is a positive synergy between the momentum of a crowd and the stability provided by government assurance. This is like traditional private investing, where government bond guarantees improve the return on bonds, and some degree of stock market regulation improves investor confidence.

An example of the positive synergy between crowdfunding and government participation is a small project in the City of Nephi, Utah, population of 5,560. Nephi had a baseball field without lights. The city approached several foundations for contributions to install lights. The foundations were willing to help but wanted to see some local effort. A crowdfunding request was made on RocketHub. The city publicized the fundraising effort through traditional media, which attracted other donors, some of whom were less comfortable giving through crowdfunding, or wanted to be recognized for their donation. This provided more assurance about the viability of the project. In the end, the funding came from three sources: five foundations provided a total of \$112,500, and direct donations and crowdfunding from both businesses and individuals provided \$12,500. There were no legal barriers and no restrictions. The City Administrator said the project presented

little risk. In this case and many others, crowdfunding is complemented by other sources. Indeed, the publicity created by crowdfunding often helps leverage other donations as well as government funding. The few legal barriers and restrictions make it easier to raise funds this way, and the risk can be minimal.

The strengths of civic crowdfunding as a means of funding infrastructure include:

- Reduced capital costs associated with privately financed infrastructure.
- Able to fund small infrastructure projects quickly with less government funding.
- Reduces the risk to investors because it can ensure there is sufficient demand before the investors commit funds to the project.
- Involvement of local citizens and other funders in a decentralized, voluntary way.

The weaknesses of civic crowdfunding in funding infrastructure include:

- Difficulty in funding large infrastructure projects.
- Effort required to initiate a funding campaign.
- Risk of online platform closure and failure or loss of reputation if funds are not returned.

5.6.3 Crowdfunding for a Recreation Project

Project: The City of Culver, Oregon (population 1,442) was approached by the family, friends, and the “church family” of a child who passed away to honor his memory by building a splash pad in a park. The city told the group that if they raised the funds, the city would provide the land and assume the ownership responsibility and costs for the splash pad. The group used a crowdfunding approach to raise funds through gofundme.com. In addition to this source, there were bake sales at the school, and the Rotary Club made this project their fundraising event for the year. In total, these groups raised about \$33,000. This project caught the attention of a pool company that donated the splash pad.

The group raised funds and worked with the city to authorize payment of bills related to the project. There were no legal barriers or restrictions to using this tool. The impetus came from the family, community, and the church, and the funds were raised very quickly, so within a year, the project went from an idea to a reality. The operating costs have been high, and the city was not

prepared to take on this expense. Also, the city needed to decide how to pay the costs of maintenance and replacement in the future.

Lessons Learned: The city did not initiate the project and did not incur any out-of-pocket expenses initially. The city did provide the land and incurred maintenance and operating costs after the project was completed. Thus, there was no risk and no cost to taxpayers initially, but there has been since then. The energy of the community groups was important in publicizing the project and raising funds. The City Manager referred to it as an “emotion-driven project,” a good illustration of a niche project. Also, the rapid success of this small project fits with the research findings mentioned: that projects that meet their funding goal are more likely to do so quickly, are also that smaller projects are more likely to be approved and to fund a higher percentage.

5.6.4 Crowdfunding for Cycling

Projects: In 2014, the City of Memphis, Tennessee, issued a crowdfunding campaign to help build a local bike transportation project. This was the first American bike transportation project paid for in part by crowdfunding. The organization Livable Memphis promoted an effort to enhance bicycling infrastructure. The Hampline project connected Binghampton, a low-income neighborhood, to the downtown and the bike path network. Total costs for this project were \$2 million from public and private sources, and crowdfunding provided last-mile funding of \$75,000 (compared to a \$67,150 goal) through the platform ioby.org from approximately 500 donors. Donor names were inscribed on a plaque, and a bike rack and bike repair station were provided with the funds raised. Crowdfunding allowed Livable Memphis to vet the project and design plans, reducing the risk to donors. (City of Memphis Bikeway and Pedestrian Program, 2021; Gasparro, 2015).

In 2014, Denver, Colorado raised \$36,085 of a \$35,000 goal through ioby.org for the Arapahoe protected bike lane project from 250 individual and small businesses, 75% of whom were within 5 miles of the project (Gasparro, 2019). The campaign provided last-mile funding to fund the remaining amount needed to complete the project. The Downtown Denver Partnership (DDP) and City and County of Denver sought to create more protected bike lanes to accommodate a 42% increase in bike commuting. DDP secured \$120,000 from the Gates Family Foundation and the Downtown Denver Business Improvement District (BID) (Gasparro, 2015). The

City pledged to cover half of the \$70,000 of the design fees and the construction costs if the DDP could raise the other half of the design fees (\$35,000). The project went from design to ribbon cutting in less than one year.

“DDP saw crowdfunding as an opportunity to allow community members and businesses to make a statement about what matters to them and to have the chance to ‘vote with their dollars.’ The ultimate goal of this campaign was to gain community buy-in” (Gasparro, 2015). “Letting communities vote with their dollars isn’t just about budgets. It is much more about letting local residents and businesses know early on about the project and allowing them to participate in a meaningful way” (Gasparro, 2019). This shows how crowdfunding can be a more direct, decentralized way for citizens to express their preferences and reduce the risk of projects to the city and private civic groups.

“Instead of holding a short public comment period, community organizations engaged residents and business owners early in the design process. This made a huge difference” (Gasparro, 2019). The DDP gathered input about the project’s design and worked with city planners to redesign the project in response to concerns about parking, access routes, and Fire Department access to hydrants. This helped attain buy-in to the project from those affected.

Despite this, some were frustrated by the crowdfunding approach to raising funds. A crowd funder in the project said, “It is NOT the community’s responsibility to pay for infrastructure in any way beyond taxes ... The city needs to step up and pay for something that is good for the community and stop treating bike riding as a niche hobby” (Emphasis original, Gasparro, 2018). In addition, a member of the BID said that crowdfunding “is not a regular funding approach, that this is a one-time or limited use approach. I think it is fine to do it a couple of times but for various strategic reasons” (Gasparro, 2018).

Lessons Learned: In both cases, the amount raised was relatively small, but the funds were raised quickly, again consistent with research findings. Crowdfunding provided a meaningful opportunity for citizens to “vote with their dollars” and make their preferences known directly. Civic participation in crowdfunding and the discussion of the projects encouraged those involved to reach a consensus regarding design issues that might have created problems otherwise. However, the frustrations expressed suggest that at least in the Arapahoe Project, some participants do not see crowdfunding as a financing approach that should be used regularly for infrastructure projects.

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