

JOINT MEETING WITH
BUDGET REVIEW COMMITTEE
AND
PLANNING AND ECONOMIC DEVELOPMENT COMMITTEE

SEPTEMBER 28, 2020

7:00 PM

To access Zoom:

<https://us02web.zoom.us/j/87680126610?pwd=Q2Y0T0t0R2tjL3Z6em5zMGQrTWo3UT09>

Meeting ID: 876 8012 6610

Passcode: 195026

To join by phone: 1-929-205-6099 - Meeting ID: 876 8012 6610 Passcode: 195026

If there is a problem with the audio, please dial 603-821-2049 to advise.

ROLL CALL

PUBLIC COMMENT

COMMUNICATIONS

From: David Fredette, Treasurer/Tax Collector

Re: Bond Sale Plan and Debt Service Analysis for General Fund

UNFINISHED BUSINESS

NEW BUSINESS – RESOLUTIONS

R-20-071

Endorser: Mayor Jim Donchess
Alderman Richard A. Dowd
Alderman-at-Large Ben Clemons
Alderman-at-Large Shoshanna Kelly
Alderman Patricia Klee
Alderman Skip Cleaver
Alderman Tom Lopez
Alderman-at-Large Lori Wilshire

AUTHORIZING THE MAYOR AND CITY TREASURER TO ISSUE BONDS NOT TO EXCEED THE AMOUNT OF EIGHT MILLION DOLLARS (\$8,000,000) FOR TWO CONSTRUCTION PROJECTS, CONSISTING OF A PUBLICLY ACCESSIBLE GROUND LEVEL PARKING GARAGE (\$2,500,000) AND ADDITIONAL FUNDING FOR THE PROPOSED PERFORMING ARTS CENTER (\$5,500,000)

R-20-076

Endorsers: Mayor Jim Donchess
Alderman Richard A. Dowd
Alderman-at-Large Shoshanna Kelly
Alderman Patricia Klee
Alderman Skip Cleaver
Alderman Thomas Lopez
Alderman-at-Large Michael B. O'Brien, Sr.
Alderman Linda Harriott-Gathright
Alderman-at-Large Lori Wilshire

AUTHORIZING AN ENERGY PERFORMANCE CONTRACT AND LEASE FINANCING ARRANGEMENT

NEW BUSINESS – ORDINANCES

O-20-030

Endorsers: Mayor Jim Donchess
Alderman Patricia Klee
Alderman-at-Large Michael B. O'Brien
Alderman Jan Schmidt
Alderman Richard A. Dowd
Alderman Tom Lopez
Alderman-at-Large Shoshanna Kelly
Alderman-at-Large Ben Clemons
Alderman-at-Large Lori Wilshire

ADOPTING A TAX INCREMENT FINANCING (TIF) DEVELOPMENT DISTRICT UNDER RSA 162-K AND NRO 295-11, THE "SCHOOL STREET TIF" AND A TAX INCREMENT FINANCING DEVELOPMENT PROGRAM AND FINANCING PLAN FOR THE NEW TIF

TABLED IN COMMITTEE

R-20-016

Endorsers: Mayor Jim Donchess
Alderman Linda Harriott-Gathright
Alderman Thomas Lopez
Alderman-at-Large Michael B. O'Brien, Sr.

AMENDING THE PURPOSE OF A FISCAL YEAR 2020 UNLIKE ESCROW FOR THE COMMUNITY DEVELOPMENT DIVISION

R-20-017

Endorsers: Mayor Jim Donchess
Alderman Thomas Lopez
Alderman Richard A. Dowd
Alderman-at-Large David C. Tencza
Alderman Patricia Klee
Alderman-at-Large Michael B. O'Brien, Sr.
Alderman Linda Harriott-Gathright
Alderman Skip Cleaver
Alderman Jan Schmidt
Alderman-at-Large Lori Wilshire

RELATIVE TO THE SUPPLEMENTAL APPROPRIATION OF \$50,000 TO FUND A FEASIBILITY STUDY FOR THE FUTURE REUSE OF THE ELM STREET MIDDLE SCHOOL BUILDING

- Requires a Public Hearing which has not yet been scheduled

R-20-028

Endorsers: Mayor Jim Donchess
Alderman-at-large Michael B. O'Brien, Sr.
Alderman-at-large David C. Tencza
Alderman Richard A. Dowd
Alderman Linda Harriott-Gathright
Alderman Patricia Klee

AUTHORIZING THE CITY OF NASHUA TO ENTER INTO A MASTER DEVELOPMENT AGREEMENT WITH LANSINGMELBOURNE GROUP, LLC.

(re-tabled at 8-12 mtg)

GENERAL DISCUSSION

PUBLIC COMMENT

REMARKS BY THE ALDERMEN

POSSIBLE NON-PUBLIC SESSION

ADJOURNMENT



City of Nashua
Office of The Treasurer
229 Main Street - Nashua, NH 03060

(603) 589-3111
Fax (603)589-3211

TO: Chairman Richard Dowd and Members of the Budget Review Committee

FROM: David G. Fredette, Treasurer/Tax Collector

DATE: September 19, 2020

RE: Bond Sale Plan and Debt Service Analysis for General Fund

Attached to this memo is the most current Projected Bond Sale Plan along with the General Fund Debt Service Analysis in preparation of the Public Hearing scheduled on September 28th.

Projected Bond Sale Plan

The Bond Sale Plan (page 1) shows the City's five year plan for bond sales from FY2021 to FY2025. This analysis is fluid in that it is updated at least twice per year based on the City's evolving capital plans and market rate assumptions. The exhibit lists the various planned bondable projects with the top section showing the amounts "Authorized" by the Board of Aldermen and the bottom section "Not Authorized." The City engages Hilltop Securities as its financial advisor for bond sales planning and execution. Given the City of Nashua's two AAA bond ratings from Standard & Poor's and Fitch Ratings, our bond sales are very competitive and attractive to investors (which resulted in a total interest cost of 2.013 percent for the most recent \$23,590,000 bond sale in October 2019).

General Fund Debt Service Analysis

The General Fund Debt Service Analysis exhibit (page 2) has been designed to show by fiscal year, the debt service required on bonded debt already sold (column B), the reduction in current debt service as the current bonds get paid off (column C), the target debt service amounts for budgetary purposes (column D), the projected or future general fund debt service budget (column E) based on the sales plan on (page 1) and the projected debt service increase/decrease through FY 2050 (column F). Once the Bond Sale Plan is updated, the Treasurer's office works closely with Hilltop Securities on modeling the bond sale and resulting debt service requirements over the life of the bonds. As you will see, the annual debt service targets increase each year between \$400,000 to \$700,000 between FY 2022 and FY 2030, which equates to annual percentage increases approximately 3.5%. Given the debt service requirements, Hilltop Securities is charged with packaging the bonds for sale. A combination of level principal, level debt, deferred principal payment, bond premium, staggered sales strategies and the use of Bond Anticipation Notes (BAN) are used to reach the annual debt service targets.

The two main columns you would want to review are page 2 columns B and E.

Tax Rate Implications

As discussed during previous Budget Review Committee meetings, it is most difficult to calculate with any degree of relevant specificity, the projected impact of each capital project funded by bonds on the tax rate. There are several components (revenues and expenses) to the City’s adopted budget that impact the tax rate. An overall target such as “a tax rate increase of less than three percent” is more appropriate. A 1% increase in the tax rate equates to an increase in appropriation of \$2.2 million.

If you or others have any additional questions please feel to contact me.

Cc Mayor Jim Donchess
Board of Aldermen
Cheryl Lindner, Chief of Staff
John Griffin, CFO/Comptroller
Donna Graham, Legislative Affairs Manager

20-014

City of Nashua
Projected Bond Sale Plan
General Fund (Tax Supported)

plan 14C
Updated 08/2020

<u>Line No.</u>			<u>FY 21</u>	<u>FY 22</u>	<u>FY 23</u>	<u>FY 24</u>	<u>FY 25</u>	<u>FY 21 - FY 25</u>
1	<u>Authorized</u>	Resolution						
	Term							
2	City Buildings (Public Health Building)	R-08-063	20	\$ 1,202,000	\$ -	\$ -	\$ -	\$ 1,202,000
3	Public Health Building	R-18-078	20	1,300,000	-	-	-	1,300,000
4	Performing Arts Center (Taxable)	R-18-001	25	15,500,000	-	-	-	15,500,000
5	Hydro Dam Improvements (Taxable)	R-19-142	25/20	6,200,000	-	-	-	6,200,000
6	CERF FY20 - Fire Dept (Tower)	R-20-008	15	-	1,400,000			1,400,000
7	DPW Admin Building	R-19-187	20	-	6,000,000			6,000,000
8	New Mid. School & 2 Mid. School Reno's	R-19-191	25	6,400,000	30,000,000	38,000,000	25,000,000	118,000,000
9	Property Revaluation	R-19-159	5		1,300,000			1,300,000
10	Public Health Building	R-20-012	20	-	1,100,000			1,100,000
11	Subtotal Authorized			<u>\$ 30,602,000</u>	<u>\$ 39,800,000</u>	<u>\$ 38,000,000</u>	<u>\$ 25,000,000</u>	<u>\$ 18,600,000</u>
12								
13								
14	<u>Not Authorized</u>							
15	CERF FY20 - Fire Dept (Tower)		15	\$ -	\$ 1,400,000	\$ -	\$ -	\$ 1,400,000
16	CERF FY21 - Fire Dept (Pumper)		15	-	725,000	-	-	725,000
17	CERF FY22 - Fire Dept (Pumper)		15	-	-	760,000	-	760,000
18	CERF FY20 - Fire Dept (Pumper)		15	-	-	-	800,000	800,000
19	SAU Office/Brentwood Relocation		20	-	1,680,000	520,000	-	2,200,000
20	Other		20	6,000,000	4,000,000	3,000,000	3,000,000	19,000,000
21	Subtotal Not Authorized			<u>6,000,000</u>	<u>7,805,000</u>	<u>4,280,000</u>	<u>3,800,000</u>	<u>24,885,000</u>
22	Grand Total General Fund (Lines 11 + 21)			<u>\$ 36,602,000</u>	<u>\$ 47,605,000</u>	<u>\$ 42,280,000</u>	<u>\$ 28,800,000</u>	<u>\$ 21,600,000</u>
				begin in FY 22	begin in FY 23	begin in FY 24	begin in FY 25	begin in FY 26

City of Nashua
General Fund Debt Service Analysis
 New Debt Sales Through FY2025
 September 2020

plan 14C

Line Number	Column A Fiscal Year	Column B Debt Service on Current Debt	Column C Increase (Decrease) in Current Debt Service	Column D Target Debt Service Amount	Column E Projected Total General Fund Debt Service Budget	Column F Projected Debt Service Budget Increase/(Decrease)	Fiscal Year
1	2020	\$ 16,488,154			\$ 16,488,154		2020
2	2021	\$ 16,504,240	\$ 16,086	\$ 16,500,000	\$ 16,504,240	\$ 16,086	2021
3	2022	\$ 14,196,089	\$ (2,308,151)	\$ 16,900,000	\$ 16,803,104	\$ 298,864	2022
4	2023	\$ 12,632,039	\$ (1,564,050)	\$ 17,500,000	\$ 17,465,739	\$ 662,635	2023
5	2024	\$ 12,101,739	\$ (530,300)	\$ 18,100,000	\$ 18,069,901	\$ 604,162	2024
6	2025	\$ 8,825,713	\$ (3,276,026)	\$ 18,600,000	\$ 18,534,313	\$ 464,412	2025
7	2026	\$ 7,275,568	\$ (1,550,145)	\$ 19,200,000	\$ 19,166,781	\$ 632,468	2026
8	2027	\$ 6,855,015	\$ (420,553)	\$ 19,700,000	\$ 18,890,415	\$ (276,366)	2027
9	2028	\$ 6,394,633	\$ (460,382)	\$ 20,400,000	\$ 17,981,558	\$ (908,857)	2028
10	2029	\$ 6,029,219	\$ (365,414)	\$ 21,100,000	\$ 17,530,344	\$ (451,214)	2029
11	2030	\$ 5,983,638	\$ (45,581)	\$ 21,800,000	\$ 17,414,363	\$ (115,981)	2030
12	2031	\$ 5,799,411	\$ (184,227)	\$ 21,800,000	\$ 17,159,361	\$ (255,002)	2031
13	2032	\$ 5,418,529	\$ (380,882)	\$ 21,800,000	\$ 16,707,104	\$ (452,257)	2032
14	2033	\$ 4,605,829	\$ (812,700)	\$ 21,800,000	\$ 15,822,279	\$ (884,825)	2033
15	2034	\$ 4,234,539	\$ (371,290)	\$ 21,800,000	\$ 15,377,851	\$ (444,428)	2034
16	2035	\$ 2,943,642	\$ (1,290,897)	\$ 21,800,000	\$ 14,017,742	\$ (1,360,109)	2035
17	2036	\$ 1,739,786	\$ (1,203,856)	\$ 21,800,000	\$ 12,743,198	\$ (1,274,544)	2036
18	2037	\$ 864,708	\$ (875,078)	\$ 21,800,000	\$ 11,795,783	\$ (947,415)	2037
19	2038	\$ 307,058	\$ (557,650)	\$ 21,800,000	\$ 10,908,945	\$ (886,838)	2038
20	2039	\$ 295,413	\$ (11,645)	\$ 21,800,000	\$ 10,789,851	\$ (119,094)	2039
21	2040	\$ 157,034	\$ (138,379)	\$ 21,800,000	\$ 10,538,572	\$ (251,279)	2040
22	2041	\$ -	\$ (157,034)	\$ 21,800,000	\$ 10,333,038	\$ (205,534)	2041
23	2042	\$ -	\$ -	\$ 21,800,000	\$ 9,846,338	\$ (486,700)	2042
24	2043	\$ -	\$ -	\$ 21,800,000	\$ 9,346,375	\$ (499,963)	2043
25	2044	\$ -	\$ -	\$ 21,800,000	\$ 9,298,675	\$ (47,700)	2044
26	2045	\$ -	\$ -	\$ 21,800,000	\$ 9,277,738	\$ (20,937)	2045
27	2046	\$ -	\$ -	\$ 21,800,000	\$ 9,257,200	\$ (20,538)	2046
28	2047	\$ -	\$ -	\$ 21,800,000	\$ 7,823,625	\$ (1,433,575)	2047
29	2048	\$ -	\$ -	\$ 21,800,000	\$ 5,662,200	\$ (2,161,425)	2048
30	2049	\$ -	\$ -	\$ 21,800,000	\$ 3,045,800	\$ (2,616,400)	2049
31	2050	\$ -	\$ -	\$ 21,800,000	\$ 1,315,600	\$ (1,730,200)	2050
Totals		\$ 139,651,996	\$ (16,488,154)		\$ 405,916,187		



RESOLUTION

AUTHORIZING THE MAYOR AND CITY TREASURER TO ISSUE BONDS NOT TO EXCEED THE AMOUNT OF EIGHT MILLION DOLLARS (\$8,000,000) FOR TWO CONSTRUCTION PROJECTS, CONSISTING OF A PUBLICLY ACCESSIBLE GROUND LEVEL PARKING GARAGE (\$2,500,000) AND ADDITIONAL FUNDING FOR THE PROPOSED PERFORMING ARTS CENTER (\$5,500,000)

CITY OF NASHUA

In the Year Two Thousand and Twenty

WHEREAS, the Board of Aldermen passed R-18-001 “Authorizing the Mayor and City Treasurer to issue bonds not to exceed the amount of fifteen million five hundred thousand dollars (\$15,500,000) for the Performing Arts Center located at 201 Main Street” on February 13, 2018.

WHEREAS, the Board of Aldermen passed R-18-092 on December 11, 2018, which amendment allowed borrowing for the design of the project prior to the raising of \$4,000,000 in private funds, including New Market Tax Credits, for the new performing arts center.

WHEREAS, the Board of Aldermen passed R-20-001 on February 2, 2020, which amended the time period on the expiration date of the Performing Arts Center project bonding authority until August 31, 2021 as it relates to the additional \$4,000,000 to be raised.

NOW THEREFORE BE IT RESOLVED by the Board of Aldermen of the City of Nashua that the Mayor of the City of Nashua and the City Treasurer of the City of Nashua are hereby authorized to issue and sell general obligation bonds of the City in an aggregate principal not to exceed two million five hundred thousand dollars (\$2,500,000). The proceeds of said bonds shall be used for the construction of a publicly accessible ground level parking garage to a proposed 146 unit multi-family apartment project on a City owned parking lot, which would include an area for parking (approximately 48-50 spaces), a minimum amount of lobby and amenity space, fire stairs landing at grade from the building above, and mechanical spaces so serve the building with power, water, and other infrastructure. The useful life of the improvements is twenty-five years.

RESOLUTION

R-20-071

FURTHER RESOLVED, by the Board of Aldermen of the City of Nashua that the Mayor of the City of Nashua and the City Treasurer of the City of Nashua are hereby authorized to issue and sell general obligation bonds of the City in an aggregate principal not to exceed five million five hundred thousand dollars (\$5,500,000). The proceeds of said bonds shall be used to pay construction costs of the Performing Arts Center project, in addition to all other amounts previously approved to be expended for that project. The stipulations approved by the Board of Aldermen under R-18-001, R-18-092, and R-20-001 will apply to this bond resolution (R-20-070). The useful life of the improvements is twenty-five years.

The amounts indicated above for each project are estimates and the Mayor may allocate more funds to any one or more of such projects, and less to others, so long as, in the judgment of the Mayor, each of the projects described above can be completed within the total appropriation made by this Resolution.

It is intent that a new Tax Increment Financing (TIF) district will be created that would fund the annual payments on this bond. The TIF will include certain properties on School Street and surrounding streets.

Pursuant to Nashua City Charter §54-a, this resolution requires a “duly advertised public hearing.” Also see N.H. RSA 33:9, which requires a 2/3 vote of all the members for passage of this resolution.

The bonds shall be general obligations of the City of Nashua, payable as to principal and interest from ad valorem taxes, which will be levied without limitation as to rate or amount on all taxable property within the territorial limits of the City of Nashua.

The bonds shall bear the manual or facsimile signature of the City Treasurer and the Mayor. In accordance with Chapter 91 of the New Hampshire Acts of 2005, bonds issued pursuant to this resolution shall not require an authenticating certificate of a bank or trust company doing business in the State of New Hampshire or The Commonwealth of Massachusetts, or the Commissioner of Revenue Administration.

The bonds are to be issued in fully-registered form by means of a book-entry system or otherwise and shall have such terms and conditions and be in such form, subject to the provisions of this resolution and applicable law, as shall be determined by the Mayor and the City Treasurer.

FURTHER RESOLVED, that the Mayor is authorized to enter into the required contracts therefor as well as any amendments to be made thereto or any other documentation necessary for the receipt of said funds.

LEGISLATIVE YEAR 2020

RESOLUTION:

R-20-071

PURPOSE:

Authorizing the Mayor and City Treasurer to issue bonds not to exceed the amount of eight million dollars (\$8,000,000) for two construction projects. The first being the construction of a publicly accessible ground level parking garage to a proposed 146 unit multi-family apartment project on a city owned parking lot, which would include an area for parking 48-50 spaces. The second being additional funding for the performance arts center. The new total amount needed for the performance arts center project will now be twenty one million dollars (\$21,000,000) - R-18-001 authorized \$15,500,000 and this current resolution R-20-070 authorizes \$5,500,000.

SPONSOR(S):

Mayor Jim Donchess

COMMITTEE ASSIGNMENT:

FISCAL NOTE:

It is anticipated that the bond would be sold in FY 21/22 for a term of twenty five years. It is estimated the interest rate will be approximately 2.5% (TAXABLE) and the total cost of the bond will be approximately \$10,664,225 including interest-level debt. The average annual payment will be approximately \$426,569. At this time it is undeterminable if the TIF district will have sufficient funds to cover the first 2 years of bond payments related to the PAC. It is also anticipated the full or a portion of the revenue derived from the sale of the air rights for the new apartments building may be available for these projects in anticipation of a supplemental appropriation request.

ANALYSIS

This resolution authorizes the City to issue and sell general obligation bonds up to \$8,000,000 for the Parking Garage and Performance Art Center (PAC) The garage has not been through the most recent Capital Improvements Program but it is scheduled for a meeting in September 2020. Funding for this bond will be generated through a new proposed Tax Increment Financing District (TIF). Pursuant to Nashua City Charter §54-a, this resolution requires a “duly advertised public hearing”. Also see NH RSA 33:9, which requires a 2/3 vote of all the members for passage of this resolution.

**Approved as to account
structure, numbers and
amount:**

Financial Services Division

By: /s/ David G. Fredette

Approved as to form:

Office of Corporation Counsel

By: /s/ Celia K. Leonard

Date: 9/2/2020



RESOLUTION

AUTHORIZING AN ENERGY PERFORMANCE CONTRACT AND LEASE FINANCING ARRANGEMENT

CITY OF NASHUA

In the Year Two Thousand and Twenty

WHEREAS, the City of Nashua, New Hampshire (the “City”), is a political subdivision duly organized under the constitution and laws of the State of New Hampshire; and

WHEREAS, it is hereby determined that a true and real need exists for the acquisition and installation of certain energy savings equipment to be acquired and installed at certain facilities of the Nashua School District (the “Equipment”); and

WHEREAS, it is necessary and desirable and in the best interest of the City of Nashua, New Hampshire, on behalf of Nashua School District, as lessee, to enter into an Equipment Lease Purchase Agreement (the "Agreement") with Municipal Leasing Consultants, LLC, as initial lessor (the “Lessor”), for the purposes described therein, including the leasing of the Equipment;

NOW, THEREFORE, BE IT RESOLVED, BY THE BOARD OF ALDERMEN OF THE CITY OF NASHUA, NEW HAMPSHIRE, AS FOLLOWS:

Section 1. The Agreement, in substantially the same form as presented to this meeting, and the terms and performance thereof are hereby approved, and the Mayor of the City is hereby authorized to execute and deliver the Agreement on behalf of the City, with such changes therein as shall be approved by such officer, such approval to be conclusively evidenced by such officer’s execution thereof.

Section 2. The Escrow Agreement (the “Escrow Agreement”), among the City, the Lessor and the escrow agent named therein, in substantially the same form as attached and the terms and performance thereof are hereby approved, and the Escrow Agreement is hereby authorized to be executed and delivered on behalf of the City by a duly authorized officer of the City, with such changes therein as shall be approved by such officer, such approval to be conclusively evidenced by such officer’s execution thereof.

Section 3. The Energy Performance Contract (the “Energy Contract”), between Nashua School District and Energy Efficient Investments, Inc. in substantially the same form as attached, and the Energy Contract is hereby authorized to be executed and delivered.

Section 4. The City shall, and the officers, agents and employees of the City are hereby authorized and directed to take such further action and execute such other documents, certificates and instruments, as may be necessary or desirable to carry out and comply with the intent of this Resolution, and to carry out, comply with and perform the duties of the City with respect to the Agreement, the Escrow Agreement and the Energy Contract.

Section 5. The City has made certain capital expenditures in connection with the acquisition of the Equipment prior to the date hereof, and the City expects to make additional capital expenditures in connection with the acquisition of the Equipment in the future. The City intends to reimburse itself for all or a portion of such expenditures, to the extent permitted by law, with the proceeds of the Agreement or other tax-exempt obligations to be delivered by the City. The maximum principal amount of the Agreement or other tax-exempt obligations expected to be delivered for the Equipment is not expected to exceed \$6,671,814.

Section 6. This Resolution shall take effect and be in full force immediately after its adoption by the Board of Aldermen of the City.

LEGISLATIVE YEAR 2020

RESOLUTION: R-20-076

PURPOSE: Authorizing an energy performance contract and lease financing arrangement

ENDORSERS: Mayor Jim Donchess
Alderman Richard A. Dowd

**COMMITTEE
ASSIGNMENT:**

FISCAL NOTE: The maximum principal amount of the Agreement or other tax-exempt obligations expected to be delivered for the Equipment is not expected to exceed \$6,671,814.

ANALYSIS

This resolution authorizes the City of Nashua to enter into an energy performance contract and lease financing arrangement with Municipal Leasing Consultants, LLC for energy saving equipment for the city's two high schools.

Pursuant to Nashua City Charter §54-a, this resolution requires a "duly advertised public hearing". Also see NH RSA 33:9, which requires a 2/3 vote for passage of this resolution.

Approved as to form: Office of Corporation Counsel

By: /s/ Steven Bolton

Date: September 17, 2020

**ENERGY PERFORMANCE CONTRACT
BETWEEN**

Nashua School District

AND

Energy Efficient Investments, Inc.

Preamble

This Energy Performance Contract (hereinafter “Contract”) is entered into as of (“Effective Date”) by EEI, Inc. (hereinafter “ESCO”), a corporation having its principal offices at, with offices at, 19 D Star Drive, Merrimack, NH 03054 and Nashua School District (hereinafter “the Customer”), having its principal offices at 141 Ledge St, Nashua, NH 03060 for the purpose of furnishing equipment and work specified herein (“Work”) designed to improve energy efficiency and reduce operating costs at Customer properties (hereinafter the “Premises”) listed in the Final Investment Grade Audit in Attachment 1.

This Contract is conditional on the Customer obtaining financing from a reasonably acceptable lender or lessor in an amount not less than the Contract Price in Attachment 3 - Project Cost on terms satisfactory to the Customer, provided Customer shall diligently pursue such financing on such terms as are customary, reasonable and in compliance with pertinent laws and regulations including, without limitation, financing arranged by ESCO.

INDEX:

1. Definitions 4

2. Contract Documents 5

3. Representations and Warranties 5

4. Price and Terms..... 6

5. The Work..... 7

6. Performance and Evaluation Subsequent to Work..... 15

7. Obligations of the Parties..... 18

8. Insurance and Bond Requirements 20

9. General Provisions 22

10. Contract Signatures..... 27

Attachment 1 - Final Investment Grade Audit..... 28

Attachment 2 - Maintenance and Service Agreements..... 42

Attachment 3 - Project Cost & Schedule of Values 43

Attachment 4 - Measurement and Verification Plan 44

Attachment 5 - Major Equipment List (Bill of Materials) 65

Attachment 6 – Scope of Work and Project Schedule..... 66

Attachment 7 - Additional Construction or Operational Requirements 67

Attachment 8 – Standards of Comfort 68

Attachment 9 - Corporate Resolution, Certificate of Foreign Corporation..... 69

Attachment 10 - Substantial Completion 70

Attachment 11 - Final Acceptance..... 72

Attachment 12 – Customer Change Order Authorization form 72

1. Definitions

The following terms used within this Contract are defined as follows:

Energy Baseline - A calculation or measure of each type of energy consumed (or, as appropriate, water consumed or operating and maintenance costs) in existing facilities at the Premises prior to the installation of energy conservation measures or energy efficiency measures as described in Attachment 4 - M & V Plan.

Energy Cost Savings Measures (ECMs)/Operating Cost Savings Measures (OCMs) - A set of activities that result in savings of energy, water or operating and maintenance costs at the Premises and described in detail in Attachment 2 - Maintenance and Service Agreement. OCMs include any measures that eliminate and/or avoid expense as a result of the installation or modification of equipment, or services performed by ESCO. OCMs do not include any measures that produce savings solely because of a shift in the cost of personnel or other similar short-term cost savings.

Energy Savings - The reduction in energy consumption or demand resulting from ESCO's ECMs/OCMs which shall include electric energy savings, gas energy savings, operational savings, maintenance savings, water consumption savings and any other savings achieved as a result of the Work as shall be determined after adjustments for variations in other factors that might substantially affect the data such as weather, changes in operating practices or other external influences.

Energy savings shall be determined by comparing the Energy Baseline with the energy consumed (or demand) after ESCO has implemented ECMs/OCMs. A description of the promised savings and the terms of the Performance Guarantee with respect to promised Energy Savings is included in Attachment 4 - M & V Plan.

Final Completion - The date on which ESCO warrants by written notice in the form provided in Attachment 1 - Final Investment Grade Audit and that all Work is completed including all remaining items of Work identified in the notice contained in Attachment 10 – Substantial Completion delivered at Substantial Completion.

Project Acceptance - The date when the Customer approves all Work warranted by ESCO to be at Final Completion, including all remaining items of Work identified in the notice delivered at the Substantial Completion date. Project Acceptance will not be made until ESCO has demonstrated, through the Guidelines for Project Acceptance as described in Attachment 11 - Final Acceptance, that all ECMs/OCMs are achieving all of the stated savings in Attachment 4 - M & V Plan. Project Acceptance shall be by written notice in the form provided in Attachment 11 - Final Acceptance.

Substantial Completion - The date on which ESCO warrants by written notice in the form provided in Attachment 10 – Substantial Completion that installation of ECMs/OCMs is substantially complete and the Customer has accepted such ECM/OCM as installed.

2. Contract Documents

The Contract consists of this document and all attachments, schedules and any amendments or addenda thereto. In addition, all requirements set forth in the request for proposals/qualifications (RFP) issued by Customer and in ESCO's response, shall be part of the Contract unless specifically excluded.

3. Representations and Warranties

3.1 Representations and Warranties of Both Parties

Each party hereto represents and warrants to the other that:

- (i) it has adequate power and authority to conduct its business as presently conducted or contemplated hereby to be conducted, to enter into this Contract and to perform its obligations hereunder;
- (ii) It possesses full authority to execute and deliver this Contract and that it does not contravene any applicable law, rule or regulation;
- (iii) its execution, delivery and performance of the Contract have been duly authorized by, or are in accordance with, its organic instruments, and this Contract has been duly executed and delivered for it by the signatories so authorized and it constitutes its legal, valid and binding obligation;
- (iv) its execution, delivery and performance of this Contract will not result in a breach or violation of, or constitute a default under any agreement, lease or instrument to which it is a party or by which it or its properties may be bound or affected; and
- (v) it has not received any notice, nor to the best of its knowledge, is there pending or threatened any notice of any violation of any applicable laws, ordinances, regulations, rules, decrees, awards, permits or orders that would materially and adversely affect its ability to perform hereunder.

3.2 Representations and Warranties of ESCO

ESCO hereby warrants, represents and promises that:

- (i) before starting to perform the Contract ESCO shall a) provide proof and documentation that it is qualified, licensed or otherwise permitted to do business in the State of New Hampshire including all required insurance and bonds pursuant to this Contract to the extent not included in Attachment 9 - Corporate Resolution;
- (ii) ESCO shall use subcontractors who are qualified, licensed and bonded in this State and approved by Customer in writing to perform the Work so subcontracted pursuant to the terms hereof;
- (iii) ESCO has all requisite authority to license the use of proprietary property, both tangible and intangible, contemplated by this Contract;
- (iv) equipment installed as part of the ECMs/OCMs will meet or exceed the equipment standards set forth in Attachment 5 - Major Equipment List and
- (v) ESCO acknowledges that Customer reserves the right to reject all non-conforming goods and to cause their return for credit or replacement at Customer's option;
- (vi) the equipment installed as part of the ECMs/OCMs is or will be compatible with all other Premises' mechanical and electrical systems, subsystems, or components with which such equipment interacts, and that, as installed, neither such equipment nor such other systems, subsystems, or components will materially adversely affect each other as a direct or indirect result of equipment installation or operation;
- (vii) ESCO is financially solvent, able to pay its debts as they mature and possesses sufficient working capital to complete the work and perform its obligations under the

Contract and has no outstanding and delinquent debt owed to the State of New Hampshire or any political subdivision thereof;

(viii) ESCO has not directly or indirectly participated in any collusion or otherwise taken any action in restraint of full competitive bidding with respect to this Contract or the solicitation process leading to this Contract; and

(ix) ESCO has not paid, and agrees not to pay, any bonus, commission, fee or gratuity to any employee or official of the state or municipal government or the Customer for the purpose of obtaining this Contract or any other contract or award and that no commission or other payment has been or will be received from or paid to any third party contingent upon the award of any contract except as previously communicated to the Customer in writing (and ESCO acknowledges that subsequent discovery of non-compliance with this provision constitutes sufficient cause for immediate termination of this Contract and other remedial action).

3.3 Representations and Warranties of the Customer

Customer hereby represents and warrants that:

(i) It is a tax exempt entity and, therefore, the Work required by this Contract may be subject to tax exemption for New Hampshire sales or use tax purposes upon compliance with the appropriate process.

4. Price and Terms

4.1 Contract Price

ESCO will submit a schedule of values to Customer for parts of the Work that ESCO shall have performed on a form issued by the American Institute of Architects ("Schedule of Values"). Customer shall approve and authorize release of construction financing from the Escrow Agent/Trustee to the ESCO within thirty (30) days following Customer's receipt of a Schedule of Values. Customer shall not be required to approve release of construction financing for Work yet to be performed. In the event that the Customer disputes a portion of a Schedule of Values, Customer shall make a timely authorization to release construction financing in an amount equal to the undisputed part of the Schedule of Values.

Upon submittal of any schedule of values for payment, ESCO shall furnish signed lien waivers from ESCO and any subcontractors or material suppliers that contributed to the Work that is the subject of the schedule of values. With respect to such Work, the authorized person executing each lien waiver shall voluntarily and with knowledge of that contractor's or supplier's legal rights, waive and release any right that it has or in the future may have to claim a mechanic's lien or any other lien rights, and waive and release all other claims of any kind against (a) the real property where the Work is located; (b) the improvements and other property located thereon; (c) Customer and, as applicable, its title company and lender and their employees, officers, and agents; and (d) as applicable, the surety or sureties of Customer. In addition, in each of its lien waivers, ESCO shall (i) certify that it has paid all subcontractors, suppliers, and employees for all Work related to the submitted schedule of values, and (ii) agree to indemnify and hold harmless Customer and, as applicable, its lender and title company for all costs and expenses, including attorneys fees, incurred as a result of claims that any of the subcontractors, suppliers, or employees have not been paid for such Work.

In the event that Customer disputes a Schedule of Values or a portion of the Schedule of Values, Customer shall indicate the reason for the dispute in writing to ESCO within fourteen (14) days of receiving the Schedule of Values and the parties will negotiate in good faith to resolve the dispute prior to the expiration of the thirty (30) day period. If the parties cannot resolve the dispute within such thirty (30) day period, Late Payment interest shall accrue pursuant to section 4.02 hereof but such Late Payment interest shall be released to ESCO only in the event that the dispute is eventually resolved in favor of ESCO in accordance with Section 9.01's Dispute Resolution procedure.

ESCO shall be responsible for paying all other taxes and tariffs of any sort related to the Work. ESCO shall be responsible to pay for all labor, materials, equipment, tools, construction, equipment and machinery, fuel, transportation and other facilities and services necessary for the proper execution and completion of the Work.

Retainage will be held at 10% until progress is 50% complete, then reduced to 5% at 50% completion and further reduced to 2% at substantial completion. The remaining contract value will be released as a final payment upon Certification of Project Completion, completion of all required training, completion of any outstanding punch-list, turnover of all final paperwork such as warranties, guarantees, as-builts, O & M manuals, attic stock and satisfaction of all document turnover requirements per the project specifications.

Following Final Acceptance, Customer may terminate this Contract without cause by giving ESCO at least thirty (30) day's written notice. The Customer shall pay ESCO for

management, monitoring and verification services as described in Attachment 3 - Project Cost. The continuing payment for monitoring and verification services and any operating services described in Attachment 2 - Maintenance and Service Agreement shall be a condition for the continuing effectiveness of the Performance Guarantee.

If requested by the customer the ESCO shall provide full disclosure of all costs relating to the Work, including costs to subcontractors and vendors. ESCO shall provide a list of direct costs including copies of purchase orders (PO's) for vendors and subcontractors and a breakdown of indirect costs associated with the project if requested by the customer.

4.2 Late Payment

Interest shall accrue on any past due balances owed to either party hereunder, including for the Work or pursuant to the Performance Guarantee, at the rate of zero percent (0%) per month (or the highest rate not prohibited by law), whichever is lower. This remedy shall be in addition to, and not exclusive of, any other remedy available under this Contract or applicable law.

4.3 Contract Termination

This Contract shall be effective and binding on the parties when the financing condition in the Preamble is met. Unless otherwise terminated, including pursuant to Section 7.0 of this Contract, or agreed to in writing pursuant to this Contract, this Contract shall terminate upon completion of the Measurement and verification during finance term. Following Project Acceptance, Customer may terminate this contract without cause by giving ESCO at least 30 days' written notice. Termination of the Contract shall render the Performance Guarantee null and void, and ESCO shall have no further obligation with respect to the M&V Plan and Performance Guarantee.

5. The Work

5.1 Time for Performance and Project Acceptance

Customer shall send the Notice to Proceed to ESCO on closing financing. The Notice to Proceed shall clearly identify which measures, defined in the Final Investment Grade Audit, the ESCO should proceed with. ESCO shall begin Work within thirty (30) days of receiving the Notice to Proceed. ESCO shall substantially complete the Work consistent with the schedule set forth in Attachment 2 - Maintenance and Service Agreement. Extension of dates to commence or complete Work shall be granted at the sole discretion of the Customer except as otherwise provided herein. Customer shall not unreasonably withhold approval for an extension of dates to commence or complete Work if the cause for an extension is pursuant to Sections 5.03, 5.06, 5.08, 5.12, 5.13, or 9.02.

When all of the ECMs/OCMs are implemented, all items on the Checklist for Project Acceptance in the form provided in Attachment 11 – Final Acceptance are complete, and all items that Customer previously deemed not to be in compliance with the requirements set forth in this Contract have been corrected, ESCO shall submit and deliver to Customer a Delivery and Acceptance Certificate Upon Final Completion in the form provided in Attachment 10 – Substantial Completion evidencing in reasonable detail that all items on the Checklist for Project Acceptance located in Attachment 11 - Final Acceptance are complete and that all items that Customer deemed not to be in compliance with the requirements set forth in this Contract have been corrected and which shall also be accompanied by a Final Commissioning Report.

Upon receipt by Customer of Delivery and Acceptance Certificate Upon Final Completion, Customer shall have thirty (30) days to complete review of the ECMs/OCMs in accordance with the Guidelines for Project Acceptance in the form provided in Attachment 11 - Final Acceptance. The Customer shall notify the ESCO of each item that does not satisfy the Guidelines for Project Acceptance within thirty (30) days of receipt of the Delivery and Acceptance Certificate upon Final Completion Form or Final Completion will be deemed to have been achieved.

The Customer reserves the right to reject the work if installation fails to meet reasonable standards of workmanship, does not comply with applicable building codes or is otherwise not in compliance with the terms of this Contract. Upon correcting all items identified by Customer as not satisfying the Guidelines for Project Acceptance, ESCO shall submit and deliver to Customer a new Delivery and Acceptance Certificate upon Final Completion. Customer shall have an additional twenty-one (21) days to complete review of the ECMs/OCMs in accordance with the Guidelines for Project Acceptance upon receipt of a new Delivery and Acceptance Certificate upon Final Completion.

Project Acceptance shall be evidenced by the Customer submitting and delivering to the ESCO the Delivery and Acceptance Certificate Upon Project Acceptance in the form provided in Attachment 11 - Final Acceptance, the delivery of which will indicate that the Final Commissioning Report.

In the event that Attachment 2 - Maintenance and Service Agreement includes a provision for liquidated damages in the event that ESCO does not attain Final Completion by the date of Final Completion, then such liquidated damages shall be Customer's sole remedy for any such delay in the completion of the Work.

5.2 Specifications of Work

ESCO's obligations hereunder are specified in Attachment 2 - Maintenance and Service Agreement and related drawings and plans and any subsequent revisions thereto ("Scope of Work"), as approved by the Customer. Any modifications or alterations to the properties not expressly included within the Scope of Work are excluded from the Work. The requirements of all applicable laws, regulations and codes of federal, state, and local town or city government shall be met at all times. Additional construction or operation requirements at the Premises, if any, are described in Attachment 7 - Additional Requirements. All Work shall be performed in a good and workmanlike manner. Time is of the essence with respect to the Work.

5.3 Construction Procedures, Changes to Work and Coordination

ESCO shall supervise, coordinate and direct the Work using ESCO's best ability, skill, attention, and oversight. ESCO, in consultation with Customer, shall be responsible for the construction means, methods, techniques, sequences, and procedures. Accordingly, no course of conduct or dealings between the parties, nor expressed or implied acceptance of alterations or additions to the Work, and no claim that the Customer has been unjustly enriched by the any alteration or addition to the Work, whether or not there is in fact, any unjust enrichment to the Work, shall be the basis of any claim to an increase in the amounts due under the contract documents or a change in any time period provided for in the contract documents.

Agreement to any change order shall constitute a final settlement of all claims of ESCO relating to the change in Work that is the subject of the change order, including, but not limited to, all indirect and direct costs associated with such change and any and all adjustments to the Contract sum and the construction schedule.

The Customer shall review all proposed modifications to the building and systems and must approve of same before commencement of any Work. Such approval will be made in a timely manner and will not be unreasonably withheld. No change to the scope or specifications of Work shall be made without the written consent of the Customer, in the form of a revision to the Scope of Work.

If ESCO fails to correct Work which is not in accordance with the specifications or persistently fails to meet specifications herein, Customer may order ESCO to stop the Work, or any portion thereof, until the cause for such order has been eliminated. ESCO shall perform the Work in such a manner as not to harm the structural integrity or operating systems of any building and shall repair and restore any damage caused by the Work at ESCO's expense. ESCO shall not create or allow to continue any condition deemed to endanger health or safety as defined in Section 6.01. If such a condition exists Customer shall have the right to exercise the remedies described therein.

ESCO shall supply to the Customer the telephone number of a responsible person who may be contacted during non-work hours for emergencies arising in connection with or affecting the Work. ESCO shall coordinate any utility hookups provided by others under a separate agreement at no additional cost or expense to the Customer. ESCO acknowledges that there is sufficient space within the Premises for the performance of the Work.

5.4 Relationship with Maintenance Staff

ESCO shall cooperate with Customer's operating and maintenance personnel, train said personnel and coordinate the Work on a planned and programmed basis including the specific actions described in Attachment 2 - Maintenance and Service Agreement. ESCO shall deliver a preventive maintenance schedule and procedures for any equipment installed as part of the Work.

5.5 Material and Equipment Installed

The Customer shall make the final determination whether any material or equipment installed is as specified in the Scope of Work or, if appropriate, ESCO's Response to the RFP, which is incorporated in this Contract by Section 9.14 below. No substitution of any material or equipment specified shall be made without the written consent of the Customer in the form of a revision to the Scope of Work, and any such substitution shall be at least equal in quality, finish, durability, serviceability and performance for the purpose intended.

If alternative material or equipment is proposed, ESCO must update any and all software associated with the ECMs/OCMs, the Work or the measurement of savings. Customer reserves the right to reject all non-conforming goods and services and to direct ESCO to replace or credit the Customer, at Customer's election. Failure by Customer to discover latent defects or concealed damage or non-conformance shall not foreclose Customer's right to subsequently reject the goods or services delivered pursuant to this Contract. Formal or informal acceptance by the Customer of non-conforming goods or services shall not constitute a precedent or waiver with respect to successive receipts of goods and services. If ESCO fails to promptly cure the defect or replace nonconforming goods or services, the Customer reserves the right to cancel the Contract, contract with a different entity for the goods and services to be provided herein and to invoice ESCO for any differential in price.

ESCO shall install and, when applicable, operate and maintain, or, if specified in the Scope of Work, train Customer personnel to operate and maintain equipment in a manner that will provide standards of service to meet requirements of Section 5.02 and equipment manufacturers' literature, specifications and instructions. ESCO will service and maintain the ECMs/OCMs described in Attachment 2 - Maintenance and Service Agreement and Customer shall pay ESCO for such services during the term of this Contract as provided in Attachment 3 - Project Cost. Except for ECMs/OCMs or other equipment that is to be serviced and maintained by ESCO as provided in Attachment 2 - Maintenance and Service Agreement, Customer shall be responsible for servicing and maintaining equipment at the Premises. ESCO shall prepare and furnish at least three (3) maintenance manuals that include product data and which are subject to acceptance by the Customer for all equipment installations at the Premises.

5.6 Asbestos and Hazardous Materials

ESCO will be responsible for proper disposal of construction demolition debris that does not contain Hazardous Materials, as defined herein. ESCO will be responsible for proper disposal of all ballasts containing or suspected of containing PCBs and fluorescent lamps containing mercury. ESCO must prepare and document disposal appropriate transportation

and disposal plans and document before disposal begins and document actual disposal to Customer immediately after disposal. ESCO will be responsible for disposal of asbestos containing building material in the boiler rooms related to the demolition of existing boilers and piping. ESCO will use licensed asbestos abatement contractors and 3rd party testing.

Excluded Materials and Activities

The Customer recognizes that in connection with the Work, installation and/or service or maintenance of equipment and/or systems at the Customer's facilities, ESCO may encounter, but is not responsible for, any Work outside of the boiler rooms relating to (i) asbestos, materials containing asbestos, or the existence, use, detection, removal, containment or treatment thereof, or (ii) mold, materials containing mold, or the existence, use, detection, removal, containment or treatment thereof, or (iii) pollutants, hazardous wastes, hazardous materials, contaminants (collectively "Hazardous Materials"), or the storage, handling, use, transportation, treatment, or the disposal, discharge, leakage, detection, removal, or containment thereof.

The materials and activities listed in the foregoing sentence are hereinafter referred to as "Excluded Materials and Activities". The Customer agrees that if ESCO's performance of any Work under this Contract involves Excluded Materials and Activities, upon receipt of any and all appropriate funding and approval, the Customer will perform or arrange for the performance of such Work and will bear the sole risk and responsibility therefore. In the event ESCO discovers Hazardous or Excluded Materials, ESCO will immediately cease Work, remove all ESCO personnel or subcontractors from the site, and notify the Customer. The Customer will be responsible to handle such Materials at the Customer's expense. ESCO will undertake no further Work at the facility except as authorized by the Customer in writing. Notwithstanding anything in this Contract to the contrary, any such event of discovery or remediation by the Customer will not constitute a default by the Customer.

ESCO will be solely responsible for any hazardous or other materials, including without limitation those listed in this paragraph, that it may bring to the site.

5.7 Subcontracting and Assignments

- 1) ESCO may elect to use subcontractors in meeting its obligations hereunder. Customer shall approve all subcontractors and outside professionals in advance which approval shall not be unreasonably withheld or delayed. ESCO shall be responsible for the conduct, acts and omissions, whether intentional or unintentional, of its subcontractors, employees, agents, invitees or suppliers. ESCO agrees to bind each of its subcontractors to the terms of ESCO's obligations under Sections 5.01 - 5.06, 5.08, 5.09, 5.14 - 5.16, 8.01 - 8.07, 9.03, 9.04, 9.06 and 9.10 of this Contract. Nothing in this Contract shall create any contractual relationship between any subcontractor, employee, agent, invitee or supplier and the Customer.

5.8 Delays

If ESCO is delayed in the commencement or completion of any part of the Work due to events beyond ESCO's control and without the fault or negligence of ESCO, including but not limited to fire, flood, extended labor disputes, unusual delays in deliveries, unavoidable casualties, abnormal adverse weather, war, and acts of God, or due to Customer's actions

or failure to perform its obligations under this Contract, then ESCO will notify Customer in writing of the existence, extent of, and reasons for such delay. ESCO shall have no claim for additional compensation on account of such delays but ESCO and Customer may extend the contract time by revision to the Scope of Work for such reasonable time as they shall agree. If Customer determines that a delay described in the first sentence of this section will result in ESCO not completing the Work for a period of ninety (90) days or more, then Customer or ESCO may terminate this Contract and the Customer shall pay ESCO for the portion of the Work completed up to the Contract termination date.

5.9 Equipment Location and Access

The parties understand and agree that the Premises will be occupied during construction. ESCO shall take all necessary precautions to ensure the public safety and convenience of the occupants during construction and Customer shall cooperate with ESCO's reasonable requirements and related requirements described in Attachments 2 and 4. ESCO shall complete the Work in accordance with the schedule in Attachment 2 - Maintenance and Service Agreement. ESCO shall use sufficient personnel and adequate equipment to complete the Work pursuant to Section 5.01.

The Work must be completed in a continuous uninterrupted operation on the days and between the hours specified in Attachment 7 - Additional Requirements, unless otherwise authorized in writing by the Customer. No Work is to be done on holidays, Saturdays, or Sundays except as contemplated in Attachment 7 - Additional Requirements, the Scope of Work in order to maintain the Standards of Comfort described in Attachment 8 - Standards of Comfort or in the event of emergencies unless otherwise approved by Customer. The Customer will provide access to the Premises at the times agreed upon and make all reasonable provisions for ESCO to enter the Premises where Work is to be performed so that Work may be performed in an efficient manner.

ESCO is responsible for the security of partially completed work and for uninstalled materials or equipment stored at Customer properties. Only materials and equipment intended and necessary for immediate use shall be brought into the buildings. Equipment and unused materials shall be removed from each building by the end of each workday unless overnight storage is provided for within the Scope of Work. The Customer shall provide if available, without charge, a mutually satisfactory location or locations for the storage and operation of materials and equipment and the performance of the Work, including a location for staging and mobilization.

Flammables and combustibles shall be stored only in accordance with the requirements of relevant statutes, regulations, NFPA standards and Customer procedures. In the event that the Customer is unable to provide a satisfactory location for the storage of flammables and combustibles, then ESCO shall provide and pay for suitable storage.

5.10 Permits and Fees

ESCO shall secure and pay for building and other permits and governmental fees, licenses, and inspections necessary for proper performance and completion of the Work that are required by federal, state, or town or city governments. In the event that fees for any permits are reduced or waived by request, standing or intervention of the Customer, then, at the Customer's option, the amount of the savings of the fee shall be deducted from the line item

in the Work budget and added to the contingency line item or the Contract Price reduced by that amount.

5.11 Utilities

The Customer shall provide and pay for water, heat, fuel and utilities consumed by ESCO or in any additional equipment that may be used by ESCO during performance of the Work, including, for example, generators. ESCO shall install and pay for any facilities or modifications not already in existence that are necessary to access such water, heat, and utilities during the Work.

5.12 Concealed or Unknown Conditions

If ESCO finds conditions during the Work that are subsurface or otherwise concealed physical conditions that differ materially from those indicated on the drawings or are unknown physical conditions of an unusual nature that differ materially from those conditions ordinarily found to exist and generally recognized as inherent in similar construction activities, ESCO shall notify Customer of such conditions promptly, prior to significantly disturbing the same, and in no event later than one (1) business day after first observing the conditions.

Such conditions may include, but are not limited to, water damage, termite damage, or structural building defects. If such conditions differ materially and cause an increase in ESCO's cost of, or time required for, performance of any part of the Work, ESCO shall submit a written estimate of the material and labor cost increase and time delay. If the Customer concurs with the need, cost estimate, and time delay, Customer and ESCO shall make an equitable adjustment in the Contract Price or Time for Performance and Final Completion, or both. Pursuant to Section 5.08 above, ESCO shall not be entitled to damages for delay beyond Customer's control.

5.13 Casualty, Condemnation, Damage

If any fire, flood, other casualty, or condemnation renders a portion of any property described in Attachment 1 - Final Investment Grade Audit unsuitable for habitation or destroys a substantial part of the area within which the Work is to be performed or which the Work affects, the Customer and ESCO may terminate or modify this Contract by mutual agreement. The Customer shall pay ESCO for all Work completed to the date of termination. If any materials or equipment are damaged by the negligence or willful misconduct of an employee, agent or invitee of Customer, Customer shall repair or replace said item within a reasonable period of time, or, adjust the Contract Price to pay for repair or replacement or adjust Time for Performance and Final Completion, or both.

5.14 Standards of Service and Comfort

The facility performance requirements of service and comfort applicable to the Premises for heating, cooling, hot water, ventilation and lighting are stated in Attachment 8 - Standards of Comfort ("Standards of Comfort") and shall apply throughout the Contract. If ESCO is unable to meet these Standards of Comfort for any reason, the Customer and ESCO shall mutually agree upon an appropriate adjustment to Energy Savings, the price paid for the Work or any corrective measures that shall be provided and paid for by ESCO.

5.15 Shutdown of Services

ESCO hereby acknowledges that continuous operation of services, including but not limited to heat, water, domestic hot water, electricity, gas, sanitary facilities, elevators, fire alarms or protections, and access to the property, or common areas is essential to the operation of the Customer's properties as reflected in the Standards of Comfort. If any such service, or access to the property, or any common area is to be discontinued for any period of time in order to perform the Work (including actions described within the Scope of Work), ESCO shall give the Customer as much notice in writing as is practicable, but in no event less than seven (7) days in which event the Customer shall, by written response, approve unconditionally or with conditions such shutdown of services and the timing thereof.

The use of any portion of the Premises by ESCO for parking or staging areas for the Work shall be expressly approved by Customer prior to the Commencement of the Work. Such conditional approval may include a requirement for ESCO to provide and pay for temporary services, may limit the time period for which services or access may be shut down, or may require other actions, accommodations or expenditures on the part of ESCO. With respect to fire alarm or other fire protections, ESCO shall also notify the local fire department of any shutdown of service and notify the fire department when such service is restored.

The Customer acknowledges that such shutdowns may be necessary to perform the Work from time to time and will not unreasonably withhold approval. The Customer agrees to communicate with occupants on plans to shut down services or access and temporary measures, if any, which will be made in such circumstances.

5.16 Indemnification and Limitation of Liability (Non-Patent or Copyright)

ESCO shall be responsible for the Work and take all precautions for preventing injuries to persons and property in or about the Work and shall bear the costs of all losses or damages resulting from or on account of the Work. ESCO shall pay or cause payment to be made for all labor performed or furnished and for all material used or employed in carrying out this Contract. ESCO shall assume the defense of, indemnify and hold harmless the Customer and its officers and agents from all claims relating to:

- 1) Labor performed or furnished and materials used or employed for the Work;
- 2) Injuries to any person received or sustained by or from ESCO and its employees, subcontractors and its employees, any agents, suppliers and invitees in doing the Work, or as a consequence of any improper materials, implements of labor used or employed therein; and
- 3) Any act, omission, or neglect of ESCO and any employees, subcontractors and employees, agents, suppliers and invitees.

5.17 Indemnification (Patent and Copyright)

(a) ESCO will, at its own expense, defend or at its option settle any suit or proceeding brought against Customer in so far as it is based on an allegation that any Work (including parts thereof), or use thereof for its intended purpose, constitutes an infringement of any

United States patent or copyright, if ESCO is promptly provided Notice and given authority, information, and assistance in a timely manner for the defense of said suit or proceeding. ESCO will pay the damages and costs awarded in any suit or proceeding so defended. ESCO will not be responsible for any settlement of such suit or proceeding made without its prior written consent. In case the Work, or any part thereof, as a result of any suit or proceeding so defended is held to constitute infringement or its use by Customer is enjoined, ESCO will, at its option and its own expense, either: (i) procure for Customer the right to continue using said Work; (ii) replace it with substantially equivalent non-infringing Work; or (iii) modify the Work so it becomes non-infringing.

(b) ESCO will have no duty or obligation to Customer under Section 5.17(a) to the extent that the Work is: (i) modified by Customer or its contractors after delivery; or, (ii) combined by Customer or its contractors with items not furnished hereunder and by reason of said design, instruction, modification, or combination a suit is brought against Customer. In addition, if by reason of such modification or combination, a suit or proceeding is brought against ESCO, unless expressly prohibited by law, Customer shall protect ESCO in the same manner and to the same extent that ESCO has agreed to protect Customer under the provisions of Section 5.17(a) above.

(c) THIS SECTION 5.17 IS AN EXCLUSIVE STATEMENT OF ALL THE DUTIES OF THE PARTIES RELATING TO PATENTS AND COPYRIGHTS, AND DIRECT OR CONTRIBUTORY PATENT OR COPYRIGHT AND OF ALL THE REMEDIES OF CUSTOMER RELATING TO ANY CLAIMS, SUITS, OR PROCEEDINGS INVOLVING PATENTS AND COPYRIGHTS. Compliance with Section 5.17 as provided herein shall constitute fulfillment of all liabilities of the parties under the Contract with respect to intellectual property indemnification.

6. Performance and Evaluation Subsequent to Work

6.1 Workmanship and Equipment Warranty

ESCO hereby assigns to the Customer all warranties of all equipment and materials used in the Work. Attachment 2 - Maintenance and Service Agreement lists equipment and material warranties, however, failure to include any equipment or materials having a warranty neither excludes said equipment or materials from the provisions of this section nor ESCO's responsibilities hereunder. ESCO shall provide Customer with a list of all serial numbered items of equipment installed as part of the Work at or before the Project Acceptance.

ESCO warrants that, for a period of one year from a date of a Certificate of Substantial Completion ("Warranty Period"), the relevant equipment, materials and Work shall be new and free from defects in material, manufacture, workmanship and performance as set forth by the catalogs, bulletins and specifications included within ESCO's Response to the RFP or the Scope of Work, whichever is appropriate. If such defect occurs within the Warranty Period, ESCO shall correct and pay for correction of all defects including replacement or repair and all parts and labor.

ESCO warrants that, for any equipment or materials used in the Work with a warranty period in excess of one year, ESCO shall correct all defects including replacement or repair provided that ESCO's obligation is limited to the terms of the warranty and provided further that the Customer, by mutual consent with ESCO, may correct said defect.

No warranty liability shall attach to ESCO until Work has been substantially completed. ESCO's warranties expressly exclude any remedy for damage or defect caused by the Owner's abuse, improper operation, unapproved modifications or improper repairs.

Customer may correct any defect and ESCO shall reimburse Customer for its reasonable expenses incurred in performing such correction subject to any limitations contained within this section if ESCO fails to correct defective equipment, materials or Work within a reasonable period of time, but no less than seventy-two (72) hours, upon written notice from the Customer unless such defect is a condition deemed to endanger health or safety, is a fire hazard or would otherwise render the Premises unfit for occupancy.

Conditions which are deemed to endanger health or safety are applicable provisions of the state or local sanitary code, fire hazards under applicable fire prevention regulations and codes and other emergency conditions that shall be addressed promptly and jointly, if necessary, by ESCO and Customer assuring that immediate precautions are taken to avoid risk to persons or property, immediate measures are taken to prevent deterioration of condition, occupants are alerted to any dangers or hazards, and steps for final correction taken within twenty-four (24) hours. Customer may take reasonable steps to protect the Premises or the Work on an emergency if it is not possible or reasonable to notify ESCO before taking such actions.

THE EXPRESS LIMITED WARRANTIES PROVIDED ABOVE ARE IN LIEU OF AND EXCLUDE ALL OTHER WARRANTIES, STATUTORY, EXPRESS, OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH, TO THE EXTENT PERMITTED BY LAW, ARE HEREBY EXPRESSLY DISCLAIMED. THE LIMITED EXPRESS WARRANTIES

AND REPRESENTATIONS SET FORTH IN THIS CONTRACT MAY ONLY BE MODIFIED OR SUPPLEMENTED IN A WRITING EXECUTED BY A DULY AUTHORIZED SIGNATORY OF EACH PARTY.

6.2 Evaluation of Savings Achieved

ESCO shall also prepare and deliver to Customer an annual report of the savings achieved at the Premises for each of the twelve-month periods specified in Attachment 4 - M & V Plan in a form suitable for review and subsequent forwarding to the Customer and any consultant or auditor designated by Customer. ESCO shall include in such report, to the extent practicable, emissions reduction quantities or similar data attributable to or resulting from the Work and shall advise Customer on opportunities to achieve monetary benefits from such credits or attributes which shall be the property of Customer.

The Customer shall notify ESCO of substantive changes in the properties or the operation or occupancy thereof which could affect energy or water use. Such substantive change shall be agreed upon by the parties and incorporated in the determination and evaluation of savings. The obligations under this Article are also described in Attachment 4 - M & V Plan. ESCO shall be compensated at the rate described in Attachment 3 - Project Cost for maintaining, monitoring and verification and reporting services.

6.3 Performance Guarantee

ESCO hereby guarantees the level of savings for the time periods and to the level described in Attachment 4 - M & V Plan ("Performance Guarantee"). The Performance Guarantee commencement date shall not occur and the Customer shall not be required to accept the Work unless and until all equipment installation at the Premises and training is completed in accordance with the terms and conditions of this Contract, including, without limitation, the satisfaction of all claims for labor and materials. In the event that Final Acceptance occurs after the commencement date of the Performance Guarantee (See Attachment 4 - M & V Plan), then the parties will mutually agree on a modified Attachment 4 - M & V Plan to accommodate the delay in beginning the Performance Guarantee.

The Performance Guarantee is to be achieved as a result of the Work and the ECMs/OCMs and the resulting savings, if any, shall be calculated in accordance with the procedures described in Attachment 4 - M & V Plan. The Performance Guarantee is subject to the satisfactory performance by Customer of all of its obligations under this Contract. In the event that this Contract is terminated by an uncured Event of Default by Customer, the Performance Guarantee shall be cancelled. The Performance Guarantee shall remain in effect for a term not less than the time required to finance the Work or otherwise specified in this document.

The Performance Guarantee shall thereafter terminate. In any event, ESCO and Customer have structured the Energy Savings and the Performance Guarantee to be sufficient so that the conversion to US Dollars results in amounts sufficient to exceed any and all payments (In whole or in part) required by Customer in connection with the acquisition of equipment to be installed by ESCO pursuant to this Contract, the Customer's lease or financing obligations and any related agreements associated with the execution of this Contract or the implementation of the Work.

ESCO shall have no liability to continue providing measurement and verification services or

to honor the Performance Guarantee with respect to any portion of the Work in the event the Customer: (i) fails to authorize a reacceptance test or recommissioning that ESCO reasonably deems necessary in order to prevent a savings shortfall with respect to such portion of the Work; (ii) fails to provide access to a site where such portion of the Work was performed as required herein; (iii) fails to service and maintain all equipment associated with such portion of the Work in accordance with the manufacturers' recommendations in order to prevent a savings shortfall; or (iv) cancels or terminates the Continuing Service Program/Contract (See Attachment 2 – Maintenance and Service Agreements).

6.4 Performance Remedies

Energy-related cost savings shall be measured and/or calculated as specified in the measurement and verification plan provided in Attachment 4 - M & V Plan or as may be mutually agreed upon in writing. In the event that the energy and cost savings achieved during such twelve-month period is less than the corresponding Guaranteed Savings for the same annual period as reflected in Attachment 4 - M & V Plan while the Performance Guarantee is in effect, ESCO shall pay to Customer within thirty (30) days of the delivery of such report an amount equal to the deficiency.

In the event of such deficiency, ESCO reserves the right, subject to Customer's approval, which shall not be unreasonably withheld, to implement additional operation improvements or conservation measures, at no cost to Customer, that will improve energy savings in future years of Performance Guarantee.

All costs associated with having the ECMs/OCMs repaired, replaced, adjusted or re-engineered and re-installed shall be paid by ESCO and presentation of evidence of such payment shall be a condition to any Customer approval of such work. If during any twelve-month period specified in Attachment 2 - Maintenance and Service Agreement and Attachment 4 - M & V Plan the savings achieved are greater than the Guaranteed Energy and Cost Savings, such excess shall be retained by the Customer and not applied to ESCO's requirement to deliver Energy Savings beyond the stated year.

6.5 Security for Performance Guarantee – Not Included

6.6 Independent Audit – Not Included

6.7 Other Performance Terms and Conditions

All actions taken under Section 6, including but not limited to correction of warranties, remedy of performance shortfalls and maintenance of equipment by ESCO, shall conform with sections 5.02 through 5.17 inclusive.

6.8 Contract Closeout Responsibility

At the termination of the Contract, ESCO shall perform a walk-through survey of the properties covered by this Contract and prepare an assessment of the condition of the equipment and materials installed as part of the Work and subsequent thereto under this Article. This closeout report shall include but not be limited to the following, as appropriate:

- 1) Operating and maintenance recommendations during the remaining life of

equipment installed if different from requirements furnished upon installation or if changes in technology or procedures affecting the equipment could extend the useful life of the equipment or increase the conservation efficiency,

- 2) An overview of new technology or additional conservation measures for the Customer to consider.

7. Obligations of the Parties

7.1 Obligations of ESCO

ESCO acknowledges and agrees that ESCO's obligations hereunder are in the capacity of providing professional services for the purposes described in the Preamble to this Contract and in said capacity ESCO is expected to provide energy, water and operational auditing, engineering, design and monitoring services, construction management including general contracting as necessary, and other related services as solicited in the RFP and as may normally be incidental to these types of professional services. ESCO acknowledges and agrees that any other functions, including, but not limited to, manufacturer's representative, dealer or distributor of equipment, materials or commodity specified herein or as subcontractor, or any ownership interest in whole or in part, or financial affiliation with a company that performs such other function shall constitute a conflict of interest which shall constitute a material breach of this Contract unless 1) fully disclosed in ESCO's Response to the RFP, and 2) accepted by the Customer under terms which are specified in the Scope of Work. ESCO acknowledges and agrees that this paragraph applies to all its officers and employees.

The following events or conditions shall, without limitation, constitute a breach by ESCO and shall give the Customer the right, without an election of remedies, to proceed pursuant to Section 9.01 and/or terminate this Contract by delivery of written notice declaring termination, upon which event ESCO shall be liable to the Customer for any and all damages sustained by the Customer:

- 1) Any attempt by ESCO to increase the Contract price for reasons other than those related to changes in the Work pursuant to Section 5.03;
- 2) Any failure by ESCO to provide annual monitoring reports pursuant to Section 6.02 provided that such failure continues for ten (10) days after notice from Customer;
- 3) Any failure by ESCO to make payments pursuant to the Performance Guarantee provided that such failure continues for three (3) business days after notice from Customer;
- 4) Any representation or warranty furnished by ESCO in ESCO's Response to the RFP, the Scope of Work or this Contract which is false or misleading in any material respect when made;
- 5) Any state, county or federal license, authorization, waiver, permit, qualification or certification by statute, ordinance, law or regulation to be held by ESCO to provide the goods or services required by this Contract is denied, revoked, debarred, excluded, terminated, suspended, lapsed or not renewed;
- 6) The filing of bankruptcy by ESCO or by ESCO's creditors, an involuntary assignment for the benefit of creditors, or the liquidation of ESCO;
- 7) Any failure by ESCO to perform or comply with any other material term or condition of this Contract, including breach of any covenant contained herein, provided that such failure continues for thirty (30) days after written notice to ESCO demanding that such failure be cured or, if cure cannot be effected in

thirty (30) days, ESCO fails to begin to cure and proceed to completion thereof as quickly as is reasonably possible;

- 8) Any failure to maintain the Standards of Comfort and service set forth in Attachment 8 - Standards of Comfort due to the failure of ESCO to properly design, install, maintain, repair or adjust the equipment installed and maintained as part of the Work except that such failure, if corrected or cured within seven (7) days after written notice by Customer to ESCO demanding that such failure be cured, shall be deemed cured for purposes of this Contract;
- 9) Any failure to furnish and install the equipment or ECMs/OCMs or perform the Work and make it ready for use within the time specified by this Contract as set forth in Attachment 2 - Maintenance and Service Agreement;
- 10) Any lien or encumbrance upon the equipment or the Premises by any subcontractor, laborer or material man of ESCO which is not released in thirty (30) days;
- 11) Any failure by ESCO to pay any amount due or perform any material obligation under the terms of this Contract; and
- 12) It is determined that ESCO has failed to disclose a material conflict of interest relative to the performance of this Contract or if it is found that any gift or gratuity were offered or given by the Contractor, or any agent or representative of the Contractor, to any officer or employee of the Customer with a view toward securing a contract or favorable treatment with respect to performance of the Contract.

7.2 Obligations of the Customer

Customer shall respond to all audits, proposed revisions and related requests on a timely basis for the expeditious design, implementation and monitoring of conservation measures. Furthermore, Customer shall comply with the Customer Responsibilities as are detailed in Attachment 2 - Maintenance and Service Agreement.

Each of the following events or conditions shall constitute a breach by Customer and shall give ESCO the right, without an election of remedies to proceed pursuant to Section 9.01 and terminate this Contract by delivery of written notice declaring termination, upon which event the Customer shall be liable to ESCO for all Work furnished to date:

- 1) Any failure by the Customer, without cause, to authorize payment due more than thirty (30) days after receipt of notice that the Customer is delinquent in making payment;
- 2) Any representation by Customer in the RFP and this Contract is false or misleading in any material respect when made; and
- 3) Any failure by the Customer to perform or comply with any other material term or condition of this Contract, including breach of any covenant contained herein, provided that such failure continues for thirty (30) days after written notice to

the Customer demanding that such failure be cured or, if cure cannot be effected in thirty (30) days, the Customer fails to begin to cure and proceed to completion thereof as quickly as is reasonably possible.

8. Insurance and Bond Requirements

8.1 Worker’s Compensation Insurance

ESCO shall provide during the life of this Contract Worker’s Compensation Insurance as follows:

- 1) Workers Compensation Coverage A Statutory Minimum
 Employer’s Liability Coverage B \$500,000 each accident
- 2) \$500,000 disease per employee
- 3) \$500,000 disease policy

8.2 Comprehensive General Liability

ESCO shall provide Comprehensive General Liability with the following minimum coverage with respect to the Work and other operations performed by ESCO and its employees, subcontractors, supplier’s agents and invitees:

- 1) Bodily Injury and Property Damage \$1,000,000 each occurrence, \$1,000,000 aggregate
- 2) Products and Completed Operations \$1,000,000 each occurrence, \$1,000,000 aggregate
- 3) Contractual Liability and Property Damage \$1,000,000 each occurrence, \$1,000,000 aggregate

8.3 Vehicle Liability

ESCO shall provide the following minimum coverage with respect to the operations of the any employee, including coverage for owned, non-owned, and hired vehicles:

- Bodily Injury \$1,000,000 each occurrence
- Property Damage \$1,000,000 each occurrence
- Combined Single Limit \$1,000,000

8.4 Property Coverage

ESCO shall provide the following coverage against loss or damage by fire and against loss or damage covered by the special perils insurance endorsement on all Work:

All Risk 80% of Contract Price minimum

Upon completion of Work at Customer buildings, ESCO shall provide an installation floater, in the full amount of the Contract Price, for the requirements set forth above. The policy or policies shall specifically state that they are for the benefit and payable to the Customer, ESCO, and all persons furnishing labor or labor and materials for the Work, shall be listed as loss payee as their interests may appear.

8.5 Professional Liability Insurance

ESCO shall maintain in full force and effect, at ESCO’s expense, an Errors and Omissions or Professional Liability Insurance Policy in the amount of \$1,000,000 minimum coverage. The policy shall remain in effect for the duration of the applicable statute of limitations for claims against construction professionals.

ESCO shall be responsible for all claims, damages, losses or expenses, including attorneys fees, arising out of or resulting from the performance of professional services contemplated by this Contract, provided that any such claim is attributable to bodily injury or death, or

injury to or destruction of tangible personal property, or to failures of the Work, including the loss of use resulting therefrom, and is caused, in whole or in part, by any negligent act, error or omission of ESCO, any consultant or associate thereof, anyone directly or indirectly employed by ESCO. ESCO shall submit a Certificate of Insurance and policy endorsement verifying said coverage upon execution of this Agreement and also any notices of renewals of such policy as they occur.

8.6 Environmental Impairment Liability Insurance

ESCO shall maintain in full force and effect, at ESCO's expense, a Sudden & Accidental Environmental Impairment Liability Insurance Policy in the amount of \$1,000,000 minimum coverage unless comparable coverage is provided pursuant to the policy required in Section 8.05. The policy shall remain in effect for the duration of the applicable statute of limitations for claims against construction professionals.

ESCO shall be responsible for all claims, damages, losses or expenses, including attorneys fees, arising out of or resulting from the cleanup, removal, and handling of hazardous materials contemplated by this Contract and is caused, in whole or in part, by any negligent act, error or omission of ESCO, any consultant or associate thereof, anyone directly or indirectly employed by ESCO. ESCO shall submit a Certificate of Insurance and policy endorsement verifying said coverage upon execution of this Agreement and also any notices of renewals of such policy as they occur.

8.7 Customer as Additional Insured

The Customer shall be named as additional insured on ESCO's Liability Policies.

8.8 Certificates of Insurance, Policies

Certificates of insurance and policy endorsements, acceptable to the Customer, shall be submitted to the Customer upon the execution of this Contract and shall be renewed upon expiration of the policies. Certificates shall indicate that the coverage required by section 8.01 through 8.06 is in effect. If the Customer is damaged by ESCO's failure to maintain such insurance, then ESCO shall be responsible for all reasonable costs or damages attributable thereto. Certificates shall note the thirty (30) day cancellation notice requirement of Section 8.09. All policies shall be issued by companies authorized to write that type of insurance under the laws of the State of New Hampshire. Any and all deductibles and self-insured retention contained in any insurance policy shall be assumed by and at the risk of ESCO.

8.9 Cancellation

Customer shall be provided notice of cancellation at least thirty (30) days prior to the effective date thereof for any insurance policy required of ESCO by this Contract.

8.10 Bonds

ESCO shall provide the Customer with payment and performance bonds and unless waived by Customer pursuant to Section 6.05, so called, to cover the full term and value of the Contract and issued by a regulated financial institution with a Best Rating of not less than A, or a comparable rating from a recognized financial rating firm, as follows:

- 1) Performance and payment bonds shall secure 100% of the Contract Price (these bonds apply only to the Work to be performed, and do not cover any guaranteed savings)

Any performance and payment bonds shall be maintained in full force and effect by ESCO until Project Acceptance. Customer agrees that upon Project Acceptance any performance and payment bonds shall be released and any obligations arising thereunder shall be terminated. AIA bond forms may be employed.

This Agreement shall be governed and construed in accordance with the law of the State of New Hampshire and any action in law or in equity concerning any dispute arising out of this Agreement, the obligations performed or to be performed thereunder, or in any way referable thereto shall be brought in the New Hampshire Superior Court for the Southern Judicial District of Hillsborough County or in the New Hampshire 9th Circuit Court situated in Nashua, New Hampshire and not elsewhere.”

9. General Provisions

9.1 Dispute Resolution

Disputes regarding changes in and interpretations of the terms or scope of the Contract and denials of or failures to act upon claims for payment for extra work or materials shall be resolved according to the following procedures:

- 1) All claims by ESCO shall be made in writing and submitted to the Customer for a written decision.
- 2) ESCO shall not delay, suspend, or curtail performance under the Contract as a result of any dispute subject to this section.
- 3) Within sixty (60) days of submission of the dispute to the Customer, the Customer shall issue a written decision stating the reasons therefor, and shall notify the parties of their right of appeal under this section. If the official of the Customer is unable to issue a decision within sixty (60) days, he shall notify ESCO in writing of the reasons and of the date by which the decision shall issue.
- 4) Failure to issue a decision within one hundred and twenty (120) day period or within the additional period specified in such written notice shall give the petitioner the right to pursue any legal remedies available to him without further delay.
- 5) ESCO and Customer agree that all disputes relating to this Contract and performance thereunder shall be resolved through courts in the State of New Hampshire and any appellate court from which an appeal may be taken therefrom. To the fullest extent permitted by law, the parties irrevocably and unconditionally submit to the exclusive jurisdiction of said court.

9.2 Conditions Beyond Control of the Parties

Except as otherwise provided herein, if either party shall be unable to carry out any material obligation under this Contract due to events beyond its control, such as acts of God, governmental or judicial action, insurrections, riots, extended labor disputes, fires, explosions or floods, this Contract shall remain in effect but the affected party's obligations shall be suspended until the uncontrollable event terminates or is resolved, unless the Contract is terminated by either party following a ninety (90) day delay, in which event, Customer shall pay ESCO for all parts of the Work furnished to the date of termination or as otherwise agreed.

9.3 Labor Laws

ESCO shall obey and abide by all laws and regulations of the State of New Hampshire relating to the employment of labor and public work, including, without limitation, the State's drug-free workplace policy (ESCO shall deliver to Customer a certificate of compliance with such policy).

ESCO shall comply with all federal and state laws, rules and regulations promoting fair

employment practices or prohibiting employment discrimination and unfair labor practices. ESCO shall not discriminate in the delivery of services against any person who otherwise meets the eligibility criteria for services, or in the hiring of any applicant for employment nor shall any qualified employee be demoted, discharged or otherwise subject to discrimination in the tenure, position, promotional opportunities, wages, benefits or terms and conditions of their employment because of race, color, national origin, ancestry, age, sex, religion, disability, status as a Vietnam Era Veteran, sexual orientation or for exercising any rights or benefits afforded by law including the requirements of Federal Executive Orders 11246, 11625, 11375 and 11830 and Title 28 Chapter 5.1.

9.4 Prevailing Wage Rate

N/A

9.5 Appropriations

The Customer reasonably believes that funds can be obtained sufficient to make all payments due to ESCO under this Contract. The Customer hereby covenants that it will make reasonable and diligent efforts to obtain and maintain funds from which such payments may be made, including making provisions for such payments to the extent necessary in each annual or supplementary budget submitted for the purpose of obtaining funds, and using reasonable efforts to have such portion of the budget approved. Nothing herein shall obligate the Customer to institute legal action before any court, to commence proceedings before any forum, or to institute proceedings in the nature of mandamus against any public official in attempting to obtain said funds.

9.6 Laws, Regulations, Ordinances and Standard Practices

ESCO shall perform its obligations hereunder in compliance with any and all applicable federal, state, and local laws, regulations, ordinances and by-laws, including applicable licensing and permitting requirements, in accordance with sound engineering and safety practices, and in compliance with any and all reasonable rules or policies of the Customer relative to the properties. ESCO shall be responsible for obtaining all governmental permits, licenses, consents, and authorizations as may be required to perform its obligations hereunder (see also Section 5.10 regarding permits and fees pertaining to the Work).

9.7 Access and Inspection

Customer shall have access to inspect, upon reasonable notice, the Work and the books, records, and other compilations of data which pertain to this Contract. Records shall be kept on a generally recognized accounting basis and calculations kept on file in legible form. Records shall be saved or archived by ESCO for a period of three (3) years after the termination of this Contract and shall be kept or made available within NewHampshire.

ESCO shall have access, upon reasonable notice to the Customer, to inspect the property to assess the condition and operation of material and equipment installed.

9.8 Ownership Rights

All drawings, reports and other materials prepared by ESCO specifically in performance of

this Contract shall become the property of the Customer as needed or upon the termination of the Contract. Customer shall be entitled to any currently or future available credits other than those agreed to by the Parties to be assigned to the ESCO, i.e. utility rebates, or rights of use associated with the reduction of energy use, particular technologies employed in or any attributes associated with the Work.

9.9 Certificates

ESCO certifies as follows:

- 1) Certificate of Authorization: If ESCO is a corporation, each person executing this Contract on behalf of ESCO hereby covenants, represents and warrants that ESCO is a duly incorporated or duly qualified (if foreign) corporation and is authorized to do business in the State of New Hampshire (a copy of evidence thereof to be supplied to the Customer upon request); and that each person executing this Contract on behalf of ESCO is an officer of ESCO and that he or she is duly authorized to execute, acknowledge and deliver this Contract to the Customer, a copy of a corporate resolution to this effect is attached hereto as Attachment 9 - Corporate Resolution.
- 2) Tax Compliance Certification: Each person signing this Contract on behalf of ESCO hereby certifies, under the penalties of perjury, that to the best of his/her knowledge and belief, ESCO has complied with any and all applicable state tax laws.
- 3) Certificate of Non-collusion: The undersigned certifies under penalties of perjury that this Contract has been made in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity of group of individuals.
- 4) Foreign Corporation: ESCO, if a foreign corporation, hereby certifies that it is in compliance with Title 7 Chapter 1.1 of the General Laws of New Hampshire and that the name and address of the resident agent is included with Attachment 9 - Corporate Resolution.

9.10 Assignment

ESCO shall not assign, transfer, convey, or otherwise dispose of this Contract, or any part hereof, or its right, title or interest in the same or any part thereof, without the prior written consent of the Customer provided, however, that Customer may not unreasonably withhold or delay its consent to an assignment of its interest in this Contract to a corporate affiliate and provided further that ESCO may without the consent of Customer assign its rights for payments under this Contract to any financial institution, lender or investor in connection with a leasing or financing arrangement for the ECMs/OCMs. ESCO shall not otherwise assign by power-of-attorney, or otherwise, any of the moneys due or to become due and payable under this Contract, without the prior written consent of the Customer.

9.11 Applicable Law and Severability

This Contract is made and shall be interpreted and enforced in accordance with the laws of the State of New Hampshire without regard to its conflict of laws provision. If any provision of this Contract shall be determined to be invalid or unenforceable under applicable law, such provision shall, insofar as possible, be construed or applied in such manner as will permit enforcement; otherwise this Contract shall be construed as if such provision had never been made part thereof.

9.12 Independent Contractor

The Contractor shall perform its duties hereunder as an independent contractor and not as an employee. Neither the Contractor nor any agent or employee of the Contractor shall be deemed to be an agent or employee of the State of New Hampshire or any agency of subdivision thereof. Contractor shall be responsible for all payroll taxes and benefits for its employees and the acts and omissions of its employees, agents, contractors, and subcontractors.

9.13 Complete Contract

This Contract, together with any documents incorporated herein by attachment as an exhibit or by reference, shall constitute the entire and exclusive Contract between both parties, except as may be provided by relevant law or regulation, and supersedes and terminates all prior or contemporaneous arrangements, understandings and agreements, whether oral or written, and this Contract may not be amended or modified except in writing and executed by the Customer and ESCO. The RFP and ESCO's response thereto are incorporated by reference to the extent not superseded by the Scope of Work or this Contract.

The failure of either ESCO or the Customer to insist upon the strict performance of any term or condition hereof shall not constitute or be construed as a waiver or relinquishment of either party's right to thereafter enforce the same in accordance with this Contract.

9.14 Further Documents

The parties shall timely execute and deliver all documents and perform all further acts that may be reasonably necessary to effectuate the provisions of this Contract.

9.15 Counterparts

This Contract may be executed in any number of counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument, and in making proof of this Contract it shall not be necessary to produce or account for more than one such counterpart.

9.16 Enforceability

ESCO acknowledges that Customer is a government entity that enjoys limited immunity and other protections under state law from tort claims. As a result, any language in the Contract that provides for indemnification by Customer, including but not limited to Section 5.17, shall be enforceable only to the extent permitted by law and shall be limited to the extent of available proceeds under the insurance policies actually maintained by Customer. Further, no indemnification by Customer under the Contract shall be deemed or construed to operate

in practical effect to waive any statutory immunity or statutory limitation of liability of Customer from claims of any third party, or to impose any further or additional liability to ESCO, that Customer is or would be subject to in a direct claim by such third party.

This Agreement shall be governed and construed in accordance with the law of the State of New Hampshire and any action in law or in equity concerning any dispute arising out of this Agreement, the obligations performed or to be performed thereunder, or in any way referable thereto shall be brought in the New Hampshire Superior Court for the Southern Judicial District of Hillsborough County or in the New Hampshire 9th Circuit Court situated in Nashua, New Hampshire and not elsewhere.”

10. Contract Signatures

IN WITNESS THEREOF, the parties have each caused this Contract to be executed in counterparts on the dates set forth below (the last of which shall be considered the date of execution hereof) by their duly authorized representatives.

Company: Nashua School District Company: Energy Efficient Investments inc.

Name: _____ Name: Paul Murphy

By: _____ By: _____

Title: _____ Title: Director

Date: _____ Date: _____

Attachment 1 - Final Investment Grade Audit



ENE Systems, Inc./Energy Efficient Investments, Inc. Investment Grade Audit

FOR:

Nashua School District

Prepared by:

Michael Davey, CEM

Date: December 05, 2019



Table of Contents

Executive Summary.....3
ECM Matrix4
Utility Analysis5
Economic Analysis6
Energy Conservation Measures7

Executive Summary

EI is located in Merrimack, NH, and has a proven track record of designing and implementing energy improvements to mechanical systems, building controls systems, insulation, and renewable systems. EI is also an approved energy management contractor with, Eversource, Liberty Utilities, and Unitil in New Hampshire.

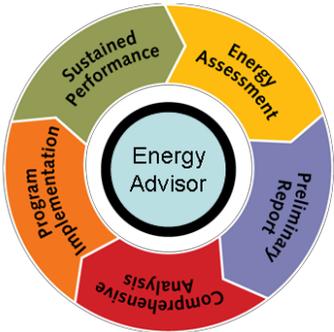
EI has developed a plan which could reduce annual energy expenditures in the district by more than \$466,719.70

EI in its role as Energy Service Company (ESCO) has agreed to develop an energy project targeting energy savings at the locations identified below:

Building	Location
Nashua North High School	8 Titan Way, Nashua, NH 03063
Nashua South High School	36 Riverside St. Nashua, NH 03062

The development of every energy project starts with the initial energy assessment which includes a site visit and the collection of utility and operational costs for each location. The Preliminary IGA entailed defining measures, budgetary costs, and estimated savings values by measure for each building. This Investment Grade Audit document finalizes these findings and the costs associated with them.

EI has prepared bid packages for each measure through the solicitation of competitive bids from respected local contractors. These bids were tallied, and the contractor cost has replaced the budgetary cost established in the Preliminary Investment Grade Audit. The Final Investment Grade Audit will be presented to the Nashua School District for acceptance as part of the Energy Performance Contract.



ECM Matrix

ECM #	ECM Matrix	Cost for Installed Measure \$	Energy Savings \$	Potential Rebates	Annual Electric Savings (kWh)	Annual Natural Gas Savings (Therm)	CO2 Emmissions Reduction (Tons)	Simple Payback
Nashua North High School								
NNHS1	LED Lighting	\$1,294,417.00	\$126,906.00	\$292,500.00	819,236	0	579	7.97
NNHS2	Controls Upgrade	\$1,077,300.00	\$13,500.00	\$27,000.00	54,634	2,373	51	99.38
NNHS3	Weatherization	\$50,000.00	\$3,000.00	\$20,000.00	338	5,112	27	5.81
NNHS4	Transformers	\$577,371.00	\$67,243.00	\$22,000.00	445,317	0	315	8.26
NNHS5	Retro Commissioning	\$262,080.00	\$10,000.00	\$35,000.00	39,487	4,254	50	22.31
NNHS6	Mini Splits	\$119,700.00	\$2,500.00	\$ -	14,639	0	10	54.51
NNHS7	Condensing Hot Water	\$165,000.00	\$2,500.00	\$4,000.00	1,405	4,802	26	33.53
NNHS8	Targeted Balancing	\$75,000.00	\$ -	\$ -	0	0	0	NA
NNHS9	Kitchen Hood	\$35,000.00	\$3,500.00	\$5,000.00	18,077	4,763	38	4.01
NNHS10	Walk In Coolers	\$35,000.00	\$3,500.00	\$5,000.00	16,777	0	12	11.92
	Total NNHS	\$3,690,868.00	\$232,649.00	\$410,500.00	1,409,911	2,1304	1,110	1410
Nashua South High School								
NSHS1	LED Lighting	\$1,438,242.00	\$139,011.23	\$325,000.00	958,698	0	678	8.01
NSHS2	Controls Upgrade	\$1,197,000.00	\$10,568.33	\$30,000.00	54,634	2,373	51	110.42
NSHS3	Weatherization	\$50,000.00	\$5,162.28	\$20,000.00	338	5,112	27	5.81
NSHS4	Transformers	\$430,920.00	\$55,027.20	\$20,000.00	477,275	0	337	8.86
NSHS5	Retro Commissioning	\$262,080.00	\$10,000.00	\$35,000.00	37,251	4,248	49	23.09
NSHS6	Mini Splits	\$119,700.00	\$2,500.00	\$0.00	10,401	0	7	76.72
NSHS7	Condensing Hot Water	\$165,000.00	\$4,801.67	\$4,000.00	1,405	4,802	26	33.53
NSHS8	Targeted Balancing	\$75,000.00	\$ -	\$0.00	0	0	0	NA
NSHS9	Kitchen Hood	\$35,000.00	\$3,500.00	\$5,000.00	6,168	2,126	16	9.83
NSHS10	Walk In Coolers	\$35,000.00	\$3,500.00	\$5,000.00	24,700	0	17	8.10
	Total NSHS	\$3,807,942.00	\$234,070.70	\$444,000.00	1,570,870	18,664	1,210	1437
	Total	\$7,498,810.00	\$466,719.70	\$854,500.00	2,980,781	39,964	2,321	1427

Utility Analysis

The utility bills were analyzed to better understand the energy use of each building. Each building utilizes natural gas provided by Liberty Utilities for HVAC heating, domestic hot water heating, and cooking. The electricity is provided by Eversource. The utility data was analyzed over a three year period, 2016-2018, and shows an average Energy Use Index (EUI) of 65 at the Nashua North High school, and 62 at the Nashua South High School. The EUI is used to compare energy consumption per square foot of building space. According to the U.S. Department of Energy, the average EUI for a K-12 Facility is 48.5. This means that both schools use approximately 35% more energy than the average K-12 facility. Given this information, we believe there are energy saving opportunities at each school. See the table below summarizing the annual energy consumption data.

Building Summary Information

Project Name: Nashua North & Nashua South High Schools

Annual Utility Data

Average Use
2016-2018

Nashua North H.S.	Nat Gas (therms)	141,816
	Elec (kWh)	3,948,662
Nashua South H.S.	Nat Gas (therms)	141,589
	Elec (kWh)	3,725,082

Contract Utility Rates

Natural Gas	Therm Rate	\$1.00
Electricity	Electric Rate	\$0.15
Nashua, NH	Balance Point (65°)	
	HDD	6071
	CDD	1050

Economic Analysis

Making good economic decisions requires analysis of available information and understanding the monetary value of time. A Discounted Life Cycle Cost Analysis (DLCCA) is very useful for this type of analysis when multiple alternatives exist. This is the Federal Energy Management Program (FEMP) approved method of analysis and is used to aid in decisions that are based on the most favorable economic outcome. The Nashua School District can see the estimated time it will take for this energy project to payback shown on the ECM Matrix on page 3.

The key assumptions EEI used in our Economic Analysis include the baseline gas and kWh use which are the average fiscal year totals from 2016 - 2018. Building interior lighting fixtures were assumed to run 2,000 hours per year, this is based on observation and interviews with staff. Exterior fixtures were assumed to run 4,380 hours per year. Additionally, the estimated energy savings calculations are dependent upon the building HVAC controls being controlled to a defined set of temperatures. These standards of comfort can be seen below.

EEI, Inc. **Nashua School District**

Building	Occupied Setpoint °F Heating	Unoccupied Setpoint °F Heating	Occupied Setpoint °F Cooling	Unoccupied Setpoint °F Cooling
Nashua High School North				
Classrooms	68	60	72	80
Media Center	68	60	72	80
Cafeteria/Kitchen	68	60	72	80
Auditorium	68	60	72	80
Offices	68	60	72	80
Gym	68	60	72	80
Library	68	60	72	80
Hallways	68	60	72	80
Nashua High School South				
Classrooms	68	60	72	80
Media Center	68	60	72	80
Cafeteria/Kitchen	68	60	72	80
Auditorium	68	60	72	80
Offices	68	60	72	80
Gym	68	60	72	80
Library	68	60	72	80
Hallways	68	60	72	80

Notes:
 1. All setpoints and times are suggested. Actual values to be determined after discussions with Nashua School District.
 2. EEI will program a General Building Override button. This will allow the building operator to override the building schedule for non-scheduled events (such as snow days)

Energy Conservation Measures

In this section of the document we will define the Energy Conservation Measures we have evaluated for this project. Then we will define the measures on a building by building basis. Careful consideration was given to each measure and its interaction with the overall building performance.

General ECM Descriptions

Nashua North High School

ECM 1 – LED Lighting

The schools currently utilize a combination of T8 and T5 fluorescent lighting. EEI proposes replacing the existing fixtures with new LED lighting. EEI performed a detailed survey of the interior and exterior spaces in order to identify opportunities in which we can improve lighting quality, reduce maintenance costs, and save energy.

The existing lighting demand (kW) per fixture, hours of operation, fixture quantities, and recommended retrofits are based on the physical inspection and site visits conducted by EEI in 2019. As a result of the survey and analysis, EEI has developed a high efficiency lighting upgrade project that will provide the schools listed with new LED fixtures with controls, resulting in guaranteed annual energy savings and a reduction in electrical demand.

LED type lighting provides significant illumination, has longer life expectancy, increased savings in electric consumption, and provides dimming capabilities. Also, standardizing all fixtures will reduce future maintenance requirements.

LED fixtures in a school environment have an estimated life of more than 20 years. There is significant maintenance savings when LED fixtures are used due to their longer lifespan.

All light energy eventually converts to heat. The conversion to higher efficiency LED fixtures will reduce the building's lighting energy intensity (kW/sq.ft), therefore impacting the HVAC heating and cooling loads. Converting to LED lighting will eliminate 2,799 mmBTU waste heat annually. The reduction in lighting waste heat will increase the HVAC load during heating season, approximately 11,983 therms annually. Conversely, the HVAC load will decrease in the cooling season, approximately 55,925 kWh annually. The net HVAC utility impact is an increase in cost of approximately \$3,594. This increase in cost has been subtracted from the energy savings for the ECM. Please see below for the formulas used to calculate the net savings affect.

HVAC Heating Load Increase = (Net Annual Interior LED Lighting kWh Savings * Btu Conversion Factor * Therm Conversion Factor * % of Time HVAC System is Heating * Utility Rate per Therm) / (Heating System Efficiency)

HVAC Cooling Load Decrease = Net Annual Interior LED Lighting kWh Savings * Btu Conversion Factor * Cooling Tons Conversion Factor * % of Time HVAC System is Cooling * Cooling System Efficiency * Utility Rate per kWh

Assumptions:

- o Net Annual Interior LED Lighting kWh Savings = 820,956 kWh
- o % of time HVAC System is Heating = 3000 hours / 8760 hours = 35%
- o % of time HVAC System is Cooling = 3000 hours / 8760 hours = 35%
- o Heating System Efficiency = 80%
- o Cooling System Efficiency = .7 kW/ton
- o Utility Rate per Therm = \$1.00/therm
- o Utility Rate per kWh = \$.15/kWh

Scope of Work:

Install (2,953) LED 2x4 and 2x4 retrofit fixtures with Spacewise control and wireless dimming capability
Install (271) LED high bay fixtures with Spacewise control and wireless dimming capability
Install (461) LED recessed can fixtures
Install (2,310) LED tubes and (1,350) LED drivers
Install (139) LED lamps
Install (180) LED round decorative fixtures

ECM 2 – Controls Upgrade

EI proposes installing a complete DDC system as an extension of the existing N4 Enterprise Supervisor.

Scope of work:

- Demo the existing VAV controllers, keeping the existing communication wiring operational for the existing controllers.
- New BACnet IP DDC controllers, new space sensors with CO2, and new discharge air sensors. Reuse existing control valves. Provide programming to reduce minimum airflow when space temperature and CO2 levels are satisfied.
- Assistance in displaying building analytics software. Review analytics reports with the team and retro-commission systems to remedy problem zones. Repeat this monthly to fine tune the building HVAC systems.
- Assistance to the balancing contractor to calibrate VAVs, airflow stations, and AHUs.
- Network controller hardware and software updates as needed.

ECM 3 – Weatherization

EI completed a detailed building audit. Suspected air leakage locations were verified and opportunities to improve building performance and save energy were found. Air leakage is caused by pressure differences subject to variations in wind velocity and HVAC systems. In order to control heating and cooling loads, and allow the mechanical systems to operate effectively, pressure differences from the outdoor environment to the indoor building spaces must be controlled. The best way to do this is by tightening the building envelope through insulating and air sealing. This will extend the life cycle of the building by protecting it from the elements and minimizing moisture carried by air which penetrates the building. Also, insulation and air sealing increases thermal performance of the building and the comfort, health and safety of the building occupants.

Scope of work:

Inspect exterior doors for deficiencies to the weather stripping and door sweeps. Install new weather stripping and door sweeps as needed.

ECM 4 – Transformers

EEl evaluated the electrical systems of the school buildings and determined that the existing transformers at Nashua North High School are standard efficiency models that are not designed to handle the loads of modern facilities. The most common efficiency for commercial and industrial transformers supplying linear loads in the 30-150 kVA range is 95%, as compared to 98% for a high efficiency model. Further, conventional transformer losses, which are non-linear, increase by 2.7 times when feeding computer loads.

EEl recommends the replacement of existing inefficient transformers in order to improve the energy efficiency of the electrical distribution systems through the replacement of the transformers with new high efficiency units. The scope of work for this measure would include upgrading:

32 Transformers

- (5) 15 kVA
- (4) 30 kVA
- (2) 45 kVA
- (1) 75 kVA
- (6) 112.5 kVA
- (1) 145 kVA
- (1) 150 kVA
- (1) 175 kVA
- (3) 220 kVA
- (4) 225 kVA
- (2) 300 kVA
- (2) 500 kVA

ECM 5 – Retro Commissioning

This is an allowance for an engineering and maintenance team to install, repair, and replace any damaged existing to remain equipment. Existing AHUs will include software revisions to reduce energy consumption. Includes 5 years of analytics reports.

ECM 6 – Mini Splits

EEl proposes removing the (19) existing Mitsubishi ductless splits.

Furnish and install (19) new Mitsubishi condensing units of the same capacity of the existing system. Counts are as follows: (7) 1-ton ceiling cassette systems, (3) 1.5-ton ceiling cassette systems, (1) 2-ton ceiling cassette system. (1) 1-ton wall mounted system, (6) 1.5-ton wall systems, (1) 2-ton wall mounted system. New units will be furnished with wind baffles for low ambient cooling and new wall mounted thermostats.

ECM 7 – Condensing Hot Water

The current water heating units are standard efficiency. This measure would be to replace the current system with high efficiency condensing Lochinvar units Armor Floor Mounted units with 98% efficiency. The units have a 5:1 turndown with stainless steel heat exchanger. Scope to include new ASME storage tanks, expansion tanks, and circulation pumps.

ECM 8 – Targeted Balancing

EEL proposes targeted balancing of the existing ventilation systems. When ventilation units are over-ventilating it causes unnecessary conditioning of outside air. This measure would include checking the air flow at the diffusers to ensure that it meets current code required flow.

ECM 9 – Kitchen Hood

The existing kitchen exhaust system has a basic on/off operation. This results in the system operating during times when it doesn't need to be operating and conditioned air is exhausted. This measure is for installing a Captive Aire unit with VFD drives on make-up air and exhaust fans. A temperature sensor will be installed in the duct work and control operation based on the temperature inside the duct.

ECM 10 – Walk In Coolers

EEL recommends refrigeration controllers on walk-in coolers and freezers as well as installing electronically commutated (EC) motors on evaporator fans. A controller can start/stop the evaporator fans when operation is unnecessary. The EC motors are 30% more efficient than the standard two-pole motors. Energy savings will be realized by reducing the runtime of the compressors and evaporator fans in addition to the reduction in power load of the new fans. Each walk-in cooler or freezer will have a new EC fan motor and blade installed as well as a dedicated controller. In addition, controllers will be installed on the freezer to optimize the operation of the electric defroster and door heater. The controller unit senses when refrigerant has ceased flowing through the evaporator coil and controls the fan motors. Door and frame heaters are controlled based on dew point, reducing their run time by 95% in coolers and 60% in freezers. The controllers will reduce compressor and evaporator runtime by up to 10%.

Calculations

Energy savings will result from both reducing the fan power and the efficient control of the evaporator fans and door heaters. In general, EEL uses the following approach to determine savings for this specific measure:

Cost of Existing Equipment = Existing kW x Cost per kWh x Existing Effective Full Load Hours

Cost of Proposed Equipment Energy Savings = Existing kW x Cost per kWh x Full Load Hours Using Control

Savings = Existing Equipment Costs - Proposed Equipment Costs

Nashua South High School

ECM 1 – LED Lighting

The schools currently utilize a combination of T8 and T5 fluorescent lighting. EEI proposes replacing the existing fixtures with new LED lighting. EEI performed a detailed survey of the interior and exterior spaces in order to identify opportunities in which we can improve lighting quality, reduce maintenance costs, and save energy.

The existing lighting demand (kW) per fixture, hours of operation, fixture quantities, and recommended retrofits are based on the physical inspection and site visits conducted by EEI in 2019. As a result of the survey and analysis, EEI has developed a high efficiency lighting upgrade project that will provide the schools listed with new LED fixtures with controls, resulting in guaranteed annual energy savings and a reduction in electrical demand.

LED type lighting provides significant illumination, has longer life expectancy, increased savings in electric consumption, and provides dimming capabilities. Also, standardizing all fixtures will reduce future maintenance requirements.

LED fixtures in a school environment have an estimated life of more than 20 years. There is significant maintenance savings when LED fixtures are used due to their longer lifespan.

All light energy eventually converts to heat. The conversion to LED fixtures will reduce the building's lighting energy intensity (kW/sq.ft), therefore impacting the HVAC heating and cooling loads. Converting to LED lighting will eliminate 2,795 mmBTU waste heat annually. The reduction in lighting waste heat will increase the HVAC load during heating season, approximately 11,967 therms annually. Conversely, the HVAC load will decrease in the cooling season, approximately 55,849 kWh annually. The net HVAC utility impact is an increase in cost of approximately \$3,589. This increase in cost has been subtracted from the energy savings for the ECM. Please see below for the formulas used to calculate the net savings affect.

$$\text{HVAC Heating Load Increase} = (\text{Net Annual Interior LED Lighting kWh Savings} * \text{Btu Conversion Factor} * \text{Therm Conversion Factor} * \% \text{ of Time HVAC System is Heating} * \text{Utility Rate per Therm}) / (\text{Heating System Efficiency})$$

$$\text{HVAC Cooling Load Decrease} = \text{Net Annual Interior LED Lighting kWh Savings} * \text{Btu Conversion Factor} * \text{Cooling Tons Conversion Factor} * \% \text{ of Time HVAC System is Cooling} * \text{Cooling System Efficiency} * \text{Utility Rate per kWh}$$

Assumptions:

- o Net Annual Interior LED Lighting kWh Savings = 819,850 kWh
- o % of time HVAC System is Heating = 3000 hours / 8760 hours = 35%
- o % of time HVAC System is Cooling = 3000 hours / 8760 hours = 35%
- o Heating System Efficiency = 80%
- o Cooling System Efficiency = .7 kW/ton
- o Utility Rate per Therm = \$1.00/therm
- o Utility Rate per kWh = \$.15/kWh

Scope of Work:

Install (3,860) LED 2x4 and 2x4 retrofit fixtures with Spacewise control and wireless dimming capability
Install (260) LED high bay fixtures with Spacewise control and wireless dimming capability
Install (642) LED recessed can fixtures
Install (2,947) LED tubes and (1,644) LED drivers
Install (193) LED lamps
Install (47) LED round decorative fixtures

ECM 2 – Controls Upgrade

EEl proposes installing a complete DDC system as an extension of the existing N4 Enterprise Supervisor.

Scope of work:

- Demo the existing VAV controllers, keeping the existing communication wiring operational for the existing controllers.
- New BACnet IP DDC controllers, new space sensors with CO₂, and new discharge air sensors. Reuse existing control valves. Provide programming to reduce minimum airflow when space temperature and CO₂ levels are satisfied.
- Assistance in displaying building analytics software. Review analytics reports with the team and retro-commission systems to remedy problem zones. Repeat this monthly to fine tune the building HVAC systems.
- Assistance to the balancing contractor to calibrate VAVs, airflow stations, and AHUs.
- Network controller hardware and software updates as needed.

ECM 3 – Weatherization

EEl completed a detailed building audit. Suspected air leakage locations were verified and opportunities to improve building performance and save energy were found. Air leakage is caused by pressure differences subject to variations in wind velocity and HVAC systems. In order to control heating and cooling loads, and allow the mechanical systems to operate effectively, pressure differences from the outdoor environment to the indoor building spaces must be controlled. The best way to do this is by tightening the building envelope through insulating and air sealing. This will extend the life cycle of the building by protecting it from the elements and minimizing moisture carried by air which penetrates the building. Also, insulation and air sealing increases thermal performance of the building and the comfort, health and safety of the building occupants.

Scope of work:

Inspect exterior doors for deficiencies to the weather stripping and door sweeps. Install new weather stripping and door sweeps as needed.

ECM 4 – Transformers

EEl evaluated the electrical systems of the school buildings and determined that the existing transformers at Nashua South High School are standard efficiency models that are not designed to handle the loads of modern facilities. The most common efficiency

for commercial and industrial transformers supplying linear loads in the 30-150 kVA range is 95%, as compared to 98% for a high efficiency model. Further, conventional transformer losses, which are non-linear, increase by 2.7 times when feeding computer loads.

EEl recommends the replacement of existing inefficient transformers in order to improve the energy efficiency of the electrical distribution systems through the replacement of the transformers with new high efficiency units. The scope of work for this measure would include:

30 Transformers

- (6) 15 kVA
- (2) 45 kVA
- (2) 75 kVA
- (8) 112.5 kVA
- (3) 150 kVA
- (5) 220 kVA
- (1) 225 kVA
- (2) 300 kVA
- (1) 400 kVA

ECM 5 – Retro Commissioning

This is an allowance for an engineering and maintenance team to install, repair, and replace any damaged existing to remain equipment. Existing AHUs will include software revisions to reduce energy consumption. Includes 5 years of analytics reports.

ECM 6 – Mini Splits

EEl proposes removing the (16) existing Mitsubishi ductless splits.

Furnish and install (16) new Mitsubishi condensing units of the same capacity of the existing system. Counts are as follows: (4) 1-ton ceiling cassette systems, (7) 1.5-ton ceiling cassette systems, (1) 2-ton ceiling Cassette system, (1) 1 ton wall mounted system, (2) 1.5 ton wall systems, (1) 3.5 ton under ceiling system. New units will be furnished with wind baffles for low ambient cooling and new wall mounted thermostats

Furnish and install (1) York cooling only system, 3.5-ton cooling

ECM 7 – Condensing Hot Water

The current water heating units are standard efficiency. This measure would be to replace the current system with high efficiency condensing Lochinvar units Armor Floor Mounted units with 98% efficiency. The units have a 5:1 turndown with stainless steel heat exchanger. Scope to include new ASME storage tanks, expansion tanks, and circulation pumps.

ECM 8 – Targeted Balancing

EEl proposes targeted balancing of the existing ventilation systems. When ventilation units are over-ventilating it causes unnecessary conditioning of outside air. This

measure would include checking the air flow at the diffusers to ensure that it meets current code required flow.

ECM 9- Kitchen Hood

The existing kitchen exhaust system has a basic on/off operation. This results in the system operating during times when it doesn't need to be operating and conditioned air is exhausted. This measure is for installing a Captive Aire unit with VFD drives on make-up air and exhaust fans. A temperature sensor will be installed in the duct work and control operation based on the temperature inside the duct.

ECM 10- Walk In Coolers

EEl recommends refrigeration controllers on walk-in coolers and freezers as well as installing electronically commutated (EC) motors on evaporator fans. A controller can start/stop the evaporator fans when operation is unnecessary. The EC motors are 30% more efficient than the standard two-pole motors. Energy savings will be realized by reducing the runtime of the compressors and evaporator fans in addition to the reduction in power load of the new fans. Each walk-in cooler or freezer will have a new EC fan motor and blade installed as well as a dedicated controller. In addition, controllers will be installed on the freezer to optimize the operation of the electric defroster and door heater. The controller unit senses when refrigerant has ceased flowing through the evaporator coil and controls the fan motors. Door and frame heaters are controlled based on dew point, reducing their run time by 95% in coolers and 60% in freezers. The controllers will reduce compressor and evaporator runtime by up to 10%.

Calculations

Energy savings will result from both reducing the fan power and the efficient control of the evaporator fans and door heaters. In general, EEl uses the following approach to determine savings for this specific measure:

Cost of Existing Equipment = Existing kW x Cost per kWh x Existing Effective Full Load Hours

Cost of Proposed Equipment Energy Savings = Existing kW x Cost per kWh x Full Load Hours Using Control

Savings = Existing Equipment Costs - Proposed Equipment Costs

Attachment 2 - Maintenance and Service Agreements

To ensure the guarantee School District must maintain equipment as required by Operational and Maintenance Manuals / Manufacturer Recommendations of all equipment provided under this contract.

For the measures that are guaranteed under IMPVP Option C, we have a reporting and continuous monitoring process that involves the District's current EMS System. EEI has integrated our Analytics Software with the current EMS from which we extract monthly data from the system for analysis. This information is used to monitor system use and for the M&V of the Option C Measures. It is vitally important to this process that the EMS be maintained and kept in proper working order at all times. Changes to the EMS software may require updates and modifications to our M&V Process. Changes to the EMS may adversely impact energy and operational savings.

The form below is EEI's M&V Continuing Services Agreement that starts at the conclusion of the Warranty Period. First year M&V Service is covered under the contract concurrent with the 1 year warranty.

Also included in this contract are years 2 through 5 M&V Continuing Services as identified in the Contract Schedule of Values defined below. This M&V Continuing Services agreement is a separate and distinct contract from any service contract the District may have with the EMS Vendor or other service providers. During the course of monitoring the systems if repairs and or replacement of system components are identified the cost for those repairs will be extra to this agreement.

To extend the M&V Continuing Service Contract beyond that established in this agreement (past 5 years) the District must sign the attached M&V Continuing Service Contract and return to EEI prior to the expiration of the limit the cost included in the construction project.

Form Contract – M&V Continuing Services Agreement

Attachment 3 - Project Cost

ECM #	ECM Matrix	Cost for Installed Measure \$	Energy Savings \$	Potential Rebates	Annual Electric Savings (kWh)	Annual Natural Gas Savings (Therm)	CO2 Emmisions Reduction (Tons)	Simple Payback
Nashua North High School								
NNHS1	LED Lighting	\$1,294,417.00	\$126,906.00	\$292,500.00	819,236	0	579	7.97
NNHS2	Controls Upgrade	\$1,077,300.00	\$13,500.00	\$27,000.00	54,634	2,373	51	99.38
NNHS3	Weatherization	\$50,000.00	\$3,000.00	\$20,000.00	338	5,112	27	5.81
NNHS4	Transformers	\$577,371.00	\$67,243.00	\$22,000.00	445,317	0	315	8.26
NNHS5	Retro Commissioning	\$262,080.00	\$10,000.00	\$35,000.00	39,487	4,254	50	22.31
NNHS6	Mini Splits	\$119,700.00	\$2,500.00	\$ -	14,639	0	10	54.51
NNHS7	Condensing Hot Water	\$165,000.00	\$2,500.00	\$4,000.00	1,405	4,802	26	33.53
NNHS8	Targeted Balancing	\$75,000.00	\$ -	\$ -	0	0	0	N/A
NNHS9	Kitchen Hood	\$35,000.00	\$3,500.00	\$5,000.00	18,077	4,763	38	4.01
NNHS10	Walk In Coolers	\$35,000.00	\$3,500.00	\$5,000.00	16,777	0	12	11.92
	Total NNHS	\$3,690,868.00	\$232,649.00	\$410,500.00	1,409,911	21,304	1,110	14.10
Nashua South High School								
NSHS1	LED Lighting	\$1,438,242.00	\$139,011.23	\$325,000.00	958,698	0	678	8.01
NSHS2	Controls Upgrade	\$1,197,000.00	\$10,568.33	\$30,000.00	54,634	2,373	51	110.42
NSHS3	Weatherization	\$50,000.00	\$5,162.28	\$20,000.00	338	5,112	27	5.81
NSHS4	Transformers	\$430,920.00	\$55,027.20	\$20,000.00	477,275	0	337	8.86
NSHS5	Retro Commissioning	\$262,080.00	\$10,000.00	\$35,000.00	37,251	4,248	49	23.09
NSHS6	Mini Splits	\$119,700.00	\$2,500.00	\$0.00	10,401	0	7	76.72
NSHS7	Condensing Hot Water	\$165,000.00	\$4,801.67	\$4,000.00	1,405	4,802	26	33.53
NSHS8	Targeted Balancing	\$75,000.00	\$ -	\$0.00	0	0	0	N/A
NSHS9	Kitchen Hood	\$35,000.00	\$3,500.00	\$5,000.00	6,168	2,126	16	9.83
NSHS10	Walk In Coolers	\$35,000.00	\$3,500.00	\$5,000.00	24,700	0	17	8.10
	Total NSHS	\$3,807,942.00	\$234,070.70	\$444,000.00	1,570,870	18,660	1,210	14.37
	Total	\$7,498,810.00	\$466,719.70	\$854,500.00	2,980,781	39,964	2,319	14.24

Attachment 4 - Measurement and Verification Plan



Energy Efficient Investments, Inc.

**Measurement and Verification
Annual Report
Period: 2016-2018 Baseline**

For:
Nashua, NH School District

Prepared by:
EEI, Inc.
Energy Advisors Group
Steve Tarantino, LEED AP O+M, EIT

Prepared on:
01/27/20

Table of Contents

Energy Efficient Investments, Inc.....	1
Nashua, NH School District.....	1
Table of Contents.....	2
Introduction.....	3
IPMVP Approved M&V Options.....	3
Project Overview.....	4
Baseline Development and Performance Period.....	18
Conditional Savings Guarantee.....	20
Appendix A - Utility Bills provided by School District.....	21

Introduction

This Measurement and Verification Plan has been prepared as a guide in determining the energy savings as a result of the installed Energy Conservation Measures. In this document, EEI will show the baseline calculations used to determine cost savings and how we can evaluate the installed measures to ensure the Savings Guarantee is being satisfied.

EEI utilized the International Performance Measurement & Verification Protocol, 2002 Revision as a technical reference for this document. In the Savings Measurement & Calculation section of this document, EEI has prepared a spreadsheet that will be used to calculate and document savings throughout the guarantee period. The M&V Options to be used are outlined in the Project Overview section of this document.

EEI will submit a Measurement & Verification Report to the customer twice annually throughout the guarantee period.

IPMVP Approved M&V Options

M&V Option	Performance ¹ and Usage ² Factors	Savings Calculation
Option A— Retrofit Isolation with Key Parameter Measurement	This option is based on a combination of measured and estimated factors when variations in factors are not expected. Measurements are spot or short-term and are taken at the component or system level, both in the baseline and post-installation cases. Measurements should include the key performance parameter(s) which define the energy use of the ECM. Estimated factors are supported by historical or manufacturer's data. Savings are determined by means of engineering calculations of baseline and post-installation energy use based on measured and estimated values.	Direct measurements and estimated values, engineering calculations and/or component or system models often developed through regression analysis. Adjustments to models are not typically required.
Option B— Retrofit Isolation with All Parameter Measurement	This option is based on periodic or continuous measurements of energy use taken at the component or system level when variations in factors are expected. Energy or proxies of energy use are measured continuously. Periodic spot or short-term measurements may suffice when variations in factors are not expected. Savings are determined from analysis of baseline and reporting period energy use or proxies of energy use.	Direct measurements, engineering calculations, and/or component or system models often developed through regression analysis. Adjustments to models may be required.
Option C— Utility Data Analysis of Whole Building	This option is based on long-term, continuous, whole-building utility meter, facility level, or sub-meter energy (or water) data. Savings are determined from analysis of baseline and reporting period energy data. Typically, regression analysis is conducted to correlate with and adjust energy use to independent variables such as weather, but simple comparisons may also be used.	Based on regression analysis of utility meter data to account for factors that drive energy use. Adjustments to models are typically required.
Option D— Calibrated Computer Simulation	Computer simulation software is used to model energy performance of a whole-facility (or sub-facility). Implementation of simulation modeling requires engineering expertise. Inputs to the model include facility characteristics; performance specifications of new and existing equipment or systems; engineering estimates, spot-, short-term, or long-term measurements of system components; and long-term whole-building utility meter data. After the model has been calibrated, savings are determined by comparing a simulation of the baseline with either a simulation of the performance period or actual utility data.	Based on computer simulation model (such as eQUEST or HAP) calibrated with whole-building or end-use metered data or both. Adjustments to models are required.

¹ Performance factors indicate equipment or system performance characteristics, such as kW/ton for a chiller or watts/fixture for lighting.

² Operating factors indicate equipment or system operating characteristics such as annual cooling ton-hours for chillers or operating hours for lighting.

Project Overview

1. PROJECT SUMMARY

The goal of this project is to achieve energy savings through upgrades to the buildings' electrical, plumbing, mechanical, and building envelope. This project will result in improved building performance, thereby reducing energy and maintenance costs.

School	Address	SF
Nashua North High School	8 Titan Way	420,000
Nashua South High School	36 Riverside St.	430,000

2. M&V OPTION SUMMARY

ECM: Nashua North High School	M&V Option Used
1. LED Lighting	Option A
2. Controls Upgrade	Option C
3. Weatherization	Option C
4. Transformers	Option B
5. Retro-Commissioning	Option C
6. Mini Splits	Option B
7. Condensing Hot Water	Option A
8. Targeted Balancing	Option A
9. Kitchen Hood	Option B
10. Walk In Coolers	Option B

ECM: Nashua South High School	M&V Option Used
1. LED Lighting	Option A
2. Controls Upgrade	Option C
3. Weatherization	Option C
4. Transformers	Option B
5. Retro-Commissioning	Option C
6. Mini Splits	Option B
7. Condensing Hot Water	Option A
8. Targeted Balancing	Option A
9. Kitchen Hood	Option B
10. Walk In Coolers	Option B

In this section of the document we will define the Energy Conservation Measures we have evaluated for this project and how each M&V option will be implemented. Careful consideration was given to each measure and its interaction with the overall building performance.

We have standard categories that we use for defining measures, from the standard categories we then apply specifics to each building and measure. General ECMs typically do not help Customers and Consultants determine which measures should be implemented. This is why we attempt to be as specific as possible. With the specificity, we are better able to estimate the implementation cost of the measure.

Nashua North High School

ECM 1 – LED Lighting

The schools currently utilize a combination of T8 and T5 fluorescent lighting. EEI proposes replacing the existing fixtures with new LED lighting. EEI performed a detailed survey of the interior and exterior spaces in order to identify opportunities in which we can improve lighting quality, reduce maintenance costs, and save energy.

The existing lighting demand (kW) per fixture, hours of operation, fixture quantities, and recommended retrofits are based on the physical inspection and site visits conducted by EEI in 2018. As a result of the survey and analysis, EEI has developed a high efficiency lighting upgrade project that will provide the schools listed with new LED fixtures with controls, resulting in guaranteed annual energy savings and a reduction in electrical demand.

LED type lighting provides significant illumination, has longer life expectancy, increased savings in electric consumption, and provides dimming capabilities. Also, by standardizing all fixtures will reduce future maintenance requirements.

LED fixtures in a school environment have an estimated life of more than 20 years. There is significant maintenance savings when LED fixtures are used due to their longer lifespan.

All light energy eventually converts to heat. The conversion to higher efficiency LED fixtures will reduce the building's lighting energy intensity (kW/sq.ft), therefore impacting the HVAC heating and cooling loads. Converting to LED lighting will eliminate 2,963 mmBTU waste heat annually. The reduction in lighting waste heat will increase the HVAC load during heating season, approximately 12,685 therms annually. Conversely, the HVAC load will decrease in the cooling system, approximately 59,198 kWh annually. The net HVAC utility impact is an increase in cost of approximately \$3,805. This increase in cost has been subtracted from the energy savings for the ECM.

The following fixture types are to be installed:

Install (2,953) LED 2x4 and 2x4 retrofit fixtures with Spacewise control and wireless dimming capability

Install (271) LED high bay fixtures with Spacewise control and wireless dimming capability

Install (461) LED recessed can fixtures

Install (2,310) LED tubes and (1,350) LED drivers

Install (139) LED lamps

Install (180) LED round decorative fixtures

IPMVP Option A, Retrofit Isolation with Key Parameter Measurement, has been chosen for this ECM. This option has been chosen because the only parameter changing in the implementation of this ECM is the fixture input wattage. EEI will use current transducers to measure a 20% sample of the fixture input wattage before and after ECM implementation.

ECM 2 – Controls Upgrade

EEI proposes installing a complete DDC system as an extension of the existing N4 Enterprise Supervisor.

Scope of work:

Demo the existing VAV controllers, keeping the existing communication wiring operational for the existing controllers. Install new BACnet IP DDC controllers, new space sensors, and new discharge air sensors. Install network controller hardware and software updates as needed.

IPMVP Option C, Utility Data Analysis of Whole Building, has been chosen for this ECM. This option has been chosen because the wide ranging effects of a controls system on building energy performance does not lend itself to isolation measurement. EEI has established the building baseline energy usage using utility data, see “Baseline Development and Performance Period” section. The building energy usage will continue to be recorded after the ECM implementation and compared to the baseline to determine savings. The savings guarantee is contingent on several building operations factors described in the Conditional Savings Guarantee section later in this report.

ECM 3 – Weatherization

EEI completed a detailed building audit and verified suspected air leakage locations and found opportunity to improve building performance and save energy. Air leakage is caused by pressure differences subject to variations in wind velocity and HVAC systems. In order to control heating and cooling loads, and allow the mechanical systems to operate effectively, pressure differences from the outdoor environment to the indoor building spaces must be controlled. The best way to do this is by tightening the building envelope through insulating and air sealing. This will extend the life cycle of the building by protecting it from the elements and minimizing moisture carried by air which penetrates the building. Also, insulation and air sealing increases thermal performance of the building and the comfort, health and safety of the building occupants.

Scope of work:

Inspect exterior doors for deficiencies to the weather stripping and door sweeps. Install new weather stripping and door sweeps as needed.

IPMVP Option C, Utility Data Analysis of Whole Building, has been chosen for this ECM. This option has been chosen because the wide ranging effects of weatherization on building energy performance does not lend itself to isolation measurement. EEI has established the building baseline energy usage using utility data, see “Baseline Development and Performance Period” section. The building energy usage will continue to be recorded after the ECM implementation and compared to the baseline to determine savings. The savings guarantee is contingent on several building operations factors described in the Conditional Savings Guarantee section later in this report.

ECM 4 – Transformers

EEI evaluated the electrical systems of the school buildings and determined that the existing transformers at Nashua North High School are standard efficiency models and are not designed to handle the loads of modern facilities. The most common efficiency for commercial and industrial transformers supplying linear loads in the 30-150 kVA range is 95%, as compared to 98% for a high efficiency model. Further, conventional transformer losses, which are non-linear, increase by 2.7 times when feeding computer loads. Also, if transformers are not properly vented to the exterior, their heat output adds to the building cooling load.

EEI recommends the replacement of existing inefficient transformers in order to improve the energy efficiency of the electrical distribution systems through the replacement of the transformers with new high efficiency units. The scope of work for this measure would include upgrading:

32 Transformers

- (5) 15 kVA
- (4) 30 kVA
- (2) 45 kVA
- (1) 75 kVA
- (6) 112.5 kVA
- (1) 145 kVA
- (1) 150 kVA
- (1) 175 kVA
- (3) 220 kVA
- (4) 225 kVA
- (2) 300 kVA
- (2) 500 kVA

IPMVP Option B, Retrofit Isolation with All Parameter Measurement, has been chosen for this ECM. This option has been chosen because the only parameters changing in the implementation of this ECM are the transformer losses. EEI will use current transducers to measure the losses for each transformer over a one month period to obtain a representative transformer loading profile.

ECM 5 – Retro Commissioning

This is an allowance for an engineering and maintenance team to install, repair, and replace any damaged existing to remain equipment. Existing AHUs will include software revisions to reduce energy consumption. Includes 5 years of analytics reports.

IPMVP Option C, Utility Data Analysis of Whole Building, has been chosen for this ECM. This option has been chosen because the wide ranging effects of Retro Commissioning on building energy performance does not lend itself to isolation measurement. EEI has established the building baseline energy usage using utility data, see “Baseline Development and Performance Period” section. The building energy usage will continue to be recorded after the ECM implementation and compared to the baseline to determine savings. The savings guarantee is contingent on several building operations factors described in the Conditional Savings Guarantee section later in this report.

ECM 6 – Mini Splits

EEI proposes removing the (19) existing Mitsubishi ductless splits.

Furnish and install (19) new Mitsubishi condensing units of the same capacity of the existing system. Counts are as follows: (7) 1-ton ceiling cassette systems, (3) 1.5-ton ceiling cassette systems, (1) 2-ton ceiling cassette system. (1) 1-ton wall mounted system, (6) 1.5-ton wall systems, (1) 2-ton wall mounted system. New units will be furnished with wind baffles for low ambient cooling and new wall mounted thermostats.

IPMVP Option B, Retrofit Isolation with All Parameter Measurement, has been chosen for this ECM. This option has been chosen because the only parameter changing in the implementation of this ECM is the mini split Energy Efficiency Ratio (EER). EEI will use current transducers to measure the EER for a 20% sample of the mini splits over a one month period to obtain a representative loading profile.

ECM 7 – Condensing Hot Water

The current water heating units are standard efficiency. This measure would be to replace the current system with high efficiency condensing Lochinvar units.

IPMVP Option A, Retrofit Isolation with Key Parameter Measurement, has been chosen for this ECM. This option has been chosen because the only parameter changing in the implementation of this ECM is the combustion efficiency. EEI will use a flue gas analyzer to measure each water heater efficiency before and after ECM implementation.

ECM 8 – Targeted Balancing

EEI proposes targeted balancing of the existing ventilation systems. When ventilation units are over-ventilating it causes unnecessary conditioning of outside air. This measure would include checking the air flow at the diffusers to ensure that it meets current code required flow.

IPMVP Option A, Retrofit Isolation with Key Parameter Measurement, has been chosen for this ECM. This option has been chosen because the only parameter changing in the implementation of this ECM is the airflow amount. EEI will use airflow hoods to measure a 20% sample of diffuser airflow cfm before and after ECM implementation.

ECM 9 – Kitchen Hood

The existing kitchen exhaust system has a basic on/off operation. This results in the system operating during times when it doesn't need to be operating and heated or cooled air is exhausted. This measure is for installing a Captive Aire unit with VFD drives on the kitchen hood exhaust fans. A temperature sensor will be installed in the duct work and control operation based on the temperature inside the duct.

IPMVP Option B, Retrofit Isolation with All Parameter Measurement, has been chosen for this ECM. This option has been chosen because the only parameter changing in the implementation of this ECM is the kitchen hood exhaust fan speeds. EEI will use Energy Management System (EMS) trending data over a one month period to obtain a representative loading profile.

ECM 10 – Walk In Coolers

EI recommends refrigeration controllers on walk-in coolers and freezers and installing electronically commutated (EC) motors on evaporator fans. A controller can start/stop the evaporator fans when operation is unnecessary. The EC motors are 30% more efficient than the standard two-pole motors. Energy savings will be realized by reducing the runtime of the compressors and evaporator fans as well as the reduction in power load of the new fans. Each walk-in cooler or freezer will have a new EC fan motor and blade installed as well as a dedicated controller. In addition, controllers will be installed on the freezer to optimize the operation of the electric defroster and door heater. The controller unit senses when refrigerant has ceased flowing through the evaporator coil and controls the fan motors. Door and frame heaters are controlled based on dew point, reducing their run time by 95% in coolers and 60% in freezers. The controllers will reduce compressor and evaporator runtime by up to 10%.

Calculations

Energy savings will result from both reducing the fan power and the efficient control of the evaporator fans and door heaters. In general, EEI uses the following approach to determine savings for this specific measure:

Existing kW Cost per kWh

Cost of Existing Equipment

Cost of Proposed Equipment Energy Savings

Listed Equipment Amperage x Voltage of Equipment Average Site Data Package \$/kWh

= Existing kW x Cost per kWh x Effective Full Load Hours

= Existing kW x Cost per kWh x Full Load Hours Using Control

= Existing Equipment Costs- Proposed Equipment Costs

IPMVP Option B, Retrofit Isolation with All Parameter Measurement, has been chosen for this ECM. This option has been chosen because the only parameters changing in the implementation of this ECM are the evaporator fan power and run time hours, the condensing unit run time hours, and the door heater run time hours. EEI will use current transducers to measure each parameter over a one month period to obtain a representative loading profile.

Nashua South High School

ECM 1 – LED Lighting

The schools currently utilize a combination of T8 and T5 fluorescent lighting. EEI proposes replacing the existing fixtures with new LED lighting. EEI performed a detailed survey of the interior and exterior spaces in order to identify opportunities in which we can improve lighting quality, reduce maintenance costs, and save energy.

The existing lighting demand (kW) per fixture, hours of operation, fixture quantities, and recommended retrofits are based on the physical inspection and site visits conducted by EEI in 2018. As a result of the survey and analysis, EEI has developed a high efficiency lighting upgrade project that will provide the schools listed with new LED fixtures with controls, resulting in guaranteed annual energy savings and a reduction in electrical demand.

LED type lighting provides significant illumination, has longer life expectancy, increased savings in electric consumption, and provides dimming capabilities. Also, by standardizing all fixtures will reduce future maintenance requirements.

LED fixtures in a school environment have an estimated life of more than 20 years. There is significant maintenance savings when LED fixtures are used due to their longer lifespan.

All light energy eventually converts to heat. The conversion to LED fixtures will reduce the building's lighting energy intensity (kW/sq.ft), therefore impacting the HVAC heating and cooling loads. Converting to LED lighting will eliminate 3,270 mmBTU waste heat annually. The reduction in lighting waste heat will increase the HVAC load during heating season, approximately 13,998 therms annually. Conversely, the HVAC load will decrease in the cooling system, approximately 65,325 kWh annually. The net HVAC utility impact is an increase in cost of approximately \$4,199. This increase in cost has been subtracted from the energy savings for the ECM.

Install (3,860) LED 2x4 and 2x4 retrofit fixtures with Spacewise control and wireless dimming capability

Install (260) LED high bay fixtures with Spacewise control and wireless dimming capability

Install (642) LED recessed can fixtures

Install (2,947) LED tubes and (1,644) LED drivers

Install (193) LED lamps

Install (47) LED round decorative fixtures

IPMVP Option A, Retrofit Isolation with Key Parameter Measurement, has been chosen for this ECM. This option has been chosen because the only parameter changing in the implementation of this ECM is the fixture input wattage. EEI will use current transducers to measure a 20% sample of the fixture input wattage before and after ECM implementation.

ECM 2 – Controls Upgrade

EEI proposes installing a complete DDC system as an extension of the existing N4 Enterprise Supervisor.

Scope of work:

Demo the existing VAV controllers, keeping the existing communication wiring operational for the existing controllers. Install new BACnet IP DDC controllers, new space sensors, and new discharge air sensors. Install network controller hardware and software updates as needed.

IPMVP Option C, Utility Data Analysis of Whole Building, has been chosen for this ECM. This option has been chosen because the wide ranging effects of a controls system on building energy performance does not lend itself to isolation measurement. EEI has established the building baseline energy usage using utility data, see “Baseline Development and Performance Period” section. The building energy usage will continue to be recorded after the ECM implementation and compared to the baseline to determine savings. The savings guarantee is contingent on several building operations factors described in the Conditional Savings Guarantee section later in this report.

ECM 3 – Weatherization

EEI completed a detailed building audit and verified suspected air leakage locations and found opportunity to improve building performance and save energy. Air leakage is caused by pressure differences subject to variations in wind velocity and HVAC systems. In order to control heating and cooling loads, and allow the mechanical systems to operate effectively, pressure differences from the outdoor environment to the indoor building spaces must be controlled. The best way to do this is by tightening the building envelope by insulating and air sealing. This will extend the life cycle of the building by protecting it from the elements and minimizing moisture carried by air which penetrates the building. Also, insulation and air sealing increases thermal performance of the building and the comfort, health and safety of the building occupants.

Scope of work:

Inspect exterior doors for deficiencies to the weather stripping and door sweeps. Install new weather stripping and door sweeps as needed.

IPMVP Option C, Utility Data Analysis of Whole Building, has been chosen for this ECM. This option has been chosen because the wide ranging effects of weatherization on building energy performance does not lend itself to isolation measurement. EEI has established the building baseline energy usage using utility data, see “Baseline Development and Performance Period” section. The building energy usage will continue to be recorded after the ECM implementation and compared to the baseline to determine savings. The savings guarantee is contingent on several building operations factors described in the Conditional Savings Guarantee section later in this report.

ECM 4 – Transformers

EEI evaluated the electrical systems of the school buildings and determined that the existing transformers at Nashua South High School are standard efficiency models and are not designed to handle the loads of modern facilities. The most common efficiency for commercial and industrial transformers supplying linear loads in the 30-150 kVA range is 95%, as compared to 98% for a high efficiency model. Further, conventional transformer losses, which are non-linear, increase by 2.7 times when feeding computer loads. Also, if transformers are not properly vented to the exterior, their

heat output adds to the building cooling load.

EEI recommends the replacement of existing inefficient transformers in order to improve the energy efficiency of the electrical distribution systems through the replacement of the transformers with new high efficiency units. The scope of work for this measure would include:

30 Transformers

- (6) 15 kVA
- (2) 45 kVA
- (2) 75 kVA
- (8) 112.5 kVA
- (3) 150 kVA
- (5) 220 kVA
- (1) 225 kVA
- (2) 300 kVA
- (1) 400 kVA

IPMVP Option B, Retrofit Isolation with All Parameter Measurement, has been chosen for this ECM. This option has been chosen because the only parameters changing in the implementation of this ECM are the transformer losses. EEI will use current transducers to measure the losses for each transformer over a one month period to obtain a representative transformer loading profile.

ECM 5 – Retro Commissioning

This is an allowance for an engineering and maintenance team to install, repair, and replace any damaged existing to remain equipment. Existing AHUs will include software revisions to reduce energy consumption. Includes 5 years of analytics reports.

IPMVP Option C, Utility Data Analysis of Whole Building, has been chosen for this ECM. This option has been chosen because the wide ranging effects of Retro Commissioning on building energy performance does not lend itself to isolation measurement. EEI has established the building baseline energy usage using utility data, see “Baseline Development and Performance Period” section. The building energy usage will continue to be recorded after the ECM implementation and compared to the baseline to determine savings. The savings guarantee is contingent on several building operations factors described in the Conditional Savings Guarantee section later in this report.

ECM 6 – Mini Splits

EEI proposes removing the (16) existing Mitsubishi ductless splits.

Furnish and install (16) new Mitsubishi condensing units of the same capacity of the existing system. Counts are as follows: (4) 1-ton ceiling cassette systems, (7) 1.5-ton ceiling cassette systems, (1) 2-ton ceiling Cassette system, (1) 1 ton wall mounted system, (2) 1.5 ton wall systems, (1) 3.5 ton under

ceiling system. New units will be furnished with wind baffles for low ambient cooling and new wall mounted thermostats

Furnish and install (1) York cooling only system, 3.5-ton cooling

IPMVP Option B, Retrofit Isolation with All Parameter Measurement, has been chosen for this ECM. This option has been chosen because the only parameter changing in the implementation of this ECM is the mini split Energy Efficiency Ratio (EER). EEI will use current transducers to measure the EER for a 20% sample of the mini splits over a one month period to obtain a representative loading profile.

ECM 7 – Condensing Hot Water

The current water heating units are standard efficiency. This measure would be to replace the current system with high efficiency condensing Lochinvar units.

IPMVP Option A, Retrofit Isolation with Key Parameter Measurement, has been chosen for this ECM. This option has been chosen because the only parameter changing in the implementation of this ECM is the combustion efficiency. EEI will use a flue gas analyzer to measure each water heater efficiency before and after ECM implementation.

ECM 8 – Targeted Balancing

EEI proposes targeted balancing of the existing ventilation systems. When ventilation units are over-ventilating it causes unnecessary conditioning of outside air. This measure would include checking the air flow at the diffusers to ensure that it meets current code required flow.

IPMVP Option A, Retrofit Isolation with Key Parameter Measurement, has been chosen for this ECM. This option has been chosen because the only parameter changing in the implementation of this ECM is the airflow amount. EEI will use airflow hoods to measure a 20% sample of diffuser airflow cfm before and after ECM implementation.

ECM 9- Kitchen Hood

The existing kitchen exhaust system has a basic on/off operation. This results in the system operating during times when it doesn't need to be operating and heated or cooled air is exhausted. This measure is for installing a Captive Aire unit with VFD drives on make-up air and exhaust fans. A temperature sensor will be located in the duct work and control operation based on the temperature inside the duct.

IPMVP Option B, Retrofit Isolation with All Parameter Measurement, has been chosen for this ECM. This option has been chosen because the only parameter changing in the implementation of this ECM is the kitchen hood exhaust fan speeds. EEI will use Energy Management System (EMS) trending data over a one month period to obtain a representative loading profile.

ECM 10- Walk In Coolers

EEI recommends refrigeration controllers on walk-in coolers and freezers and installing electronically commutated (EC) motors on evaporator fans. A controller can start/stop the evaporator fans when operation is unnecessary. The EC motors are 30% more efficient than the standard two-pole motors. Energy savings

will be realized by reducing the runtime of the compressors and evaporator fans as well as the reduction in power load of the new fans. Each walk-in cooler or freezer will have a new EC fan motor and blade installed as well as a dedicated controller. In addition, controllers will be installed on the freezer to optimize the operation of the electric defroster and door heater. The controller unit senses when refrigerant has ceased flowing through the evaporator coil and controls the fan motors. Door and frame heaters are controlled based on dew point, reducing their run time by 95% in coolers and 60% in freezers. The controllers will reduce compressor and evaporator runtime by up to 10%.

Calculations

Energy savings will result from both reducing the fan power and the efficient control of the evaporator fans and door heaters. In general, EEI uses the following approach to determine savings for this specific measure:

Existing kW Cost per kWh

Cost of Existing Equipment

Cost of Proposed Equipment Energy Savings

Listed Equipment Amperage x Voltage of Equipment Average Site Data Package \$/kWh

= Existing kW x Cost per kWh x Effective Full Load Hours

= Existing kW x Cost per kWh x Full Load Hours Using Control

= Existing Equipment Costs- Proposed Equipment Costs

IPMVP Option B, Retrofit Isolation with All Parameter Measurement, has been chosen for this ECM. This option has been chosen because the only parameters changing in the implementation of this ECM are the evaporator fan power and run time hours, the condensing unit run time hours, and the door heater run time hours. EEI will use current transducers to measure each parameter over a one month period to obtain a representative loading profile.

3. RISK & RESPONSIBILITY SUMMARY

Responsibility Description	Proposed Approach
Energy Prices	Contract energy prices have been set in the M&V plan. These rates are based on the current electric and natural gas costs and are escalated based on the US Department of Energy.
M&V Costs	The M&V costs are fixed for the duration of the contract. EEI accepts all risks associated with performing the M&V activities as stated herein.
User Participation	Lighting and ECMs: The savings for the lighting and ECMs are based on the continuation of the current operating strategies. This responsibility is accepted by the customer after project completion. The savings from the operation of the EMCs are based on the control sequences outlined herein. Since these control sequences could be overridden by the facility operating staff, the customer accepts responsibility that the ECMs will continue to operate as specified.
Equipment Performance	Lighting: EEI is responsible for ensuring the new lamps and ballasts are as specified and meet the guaranteed energy savings. ECMs: EEI is responsible for maintaining fan, pump motors, etc. so that the power draws remain at the baseline level. HVAC equipment: EEI will ensure the performance of equipment outlined in project scope and verify performance during commissioning. The customer is responsible for maintaining all equipment and providing annual maintenance records to EEI upon request.

4. EXISTING CONDITIONS DESCRIPTION

Refer to Final IGA report for existing building descriptions and Energy Conservation Measures chosen to be implemented by the School District. Careful consideration was given to each measure and its interaction with the overall building performance.

5. OPERATING HOURS

Lighting operating hours are based on 180 school calendar days, from 6am-4pm, with some allowance for evening programs or sporting events, as well as operating hours during the summer, in portions of the building, from 7am-3pm. The post-retrofit period operating hours is assumed to be the same as the baseline period. Should the customer change the operating hours, the estimated savings will not change, and baseline updates will need to be made.

Operating hours for other equipment such as boiler, fans, pumps, etc. are based on the baseline calculations and in the case of a substantial change in schedule, EEI should be notified by the customer so that baseline adjustments can be made.

Heating set-point will be no higher than 68°F and cooling set-point no lower than 72°F. EEI has estimated the load on the facility based on historical data. The customer is responsible for maintaining similar operating hours and load conditions in the post-installation period. If operating hours or load increases, the estimated savings will not change, and baseline updates will need to be made.

6. RATE DATA INFORMATION

The fuel rate values are based on Contract Rates listed as such; \$0.15/kWh, \$1.00/therm. In using these contract rates, variation and volatility within the energy markets is eliminated.

7. OPERATIONS, PREVENTATIVE MAINTENANCE, REPAIR AND REPLACEMENT REQUIREMENTS

Customer will report on all maintenance work completed annually and will continue to maintain records and make these records available to EEI upon request.

Baseline Development and Performance Period

EEI has developed a baseline energy consumption model using 2016 historical energy use data as well Heating Degree Day (HDD) and Cooling Degree Day (CDD) weather data for the same time period. This model will be used to compare future actual energy consumption to the baseline weather normalized value.

In the following tables, we have used the 2016 HDD and CDD Data as well as the utility usage for that period, to create a Year 0 – Baseline the Nashua North and South High Schools. The Dr. Norman Crip Elementary School was not included in this analysis because M&V option A will be used for the Solar P.V. ECM.

Upon project completion, the Year 1 - Performance Period will begin and subsequent M&V reports will show the actual reported utility use as well as the weather normalized baseline use. This will yield a useful comparison of the building’s post construction energy consumption and cost as opposed to a baseline model in which no upgrades occurred.

Measurement And Verification Document



Prepared by: Energy Efficient Investments, Inc.
19D Star Drive
Merrimack, NH 03054

Prepared for: Nashua School District
Nashua High School North
Nashua High School South

Contract Number: _____
Report Date: _____
Starting Period: _____
Ending Period: _____

Contract Rates:

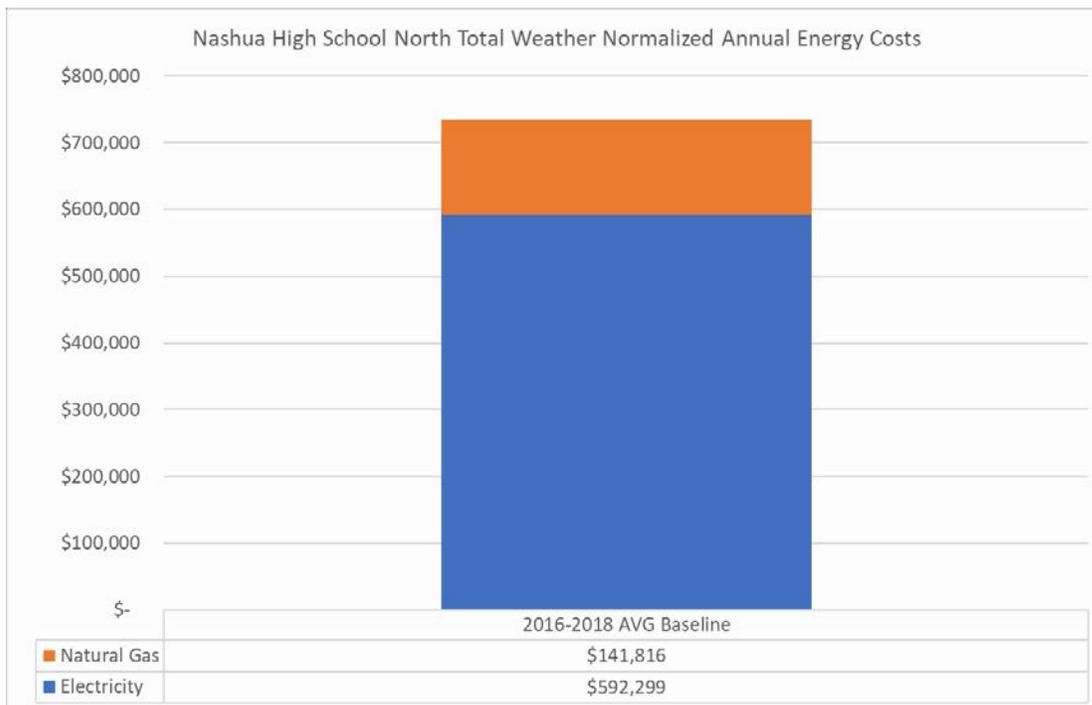
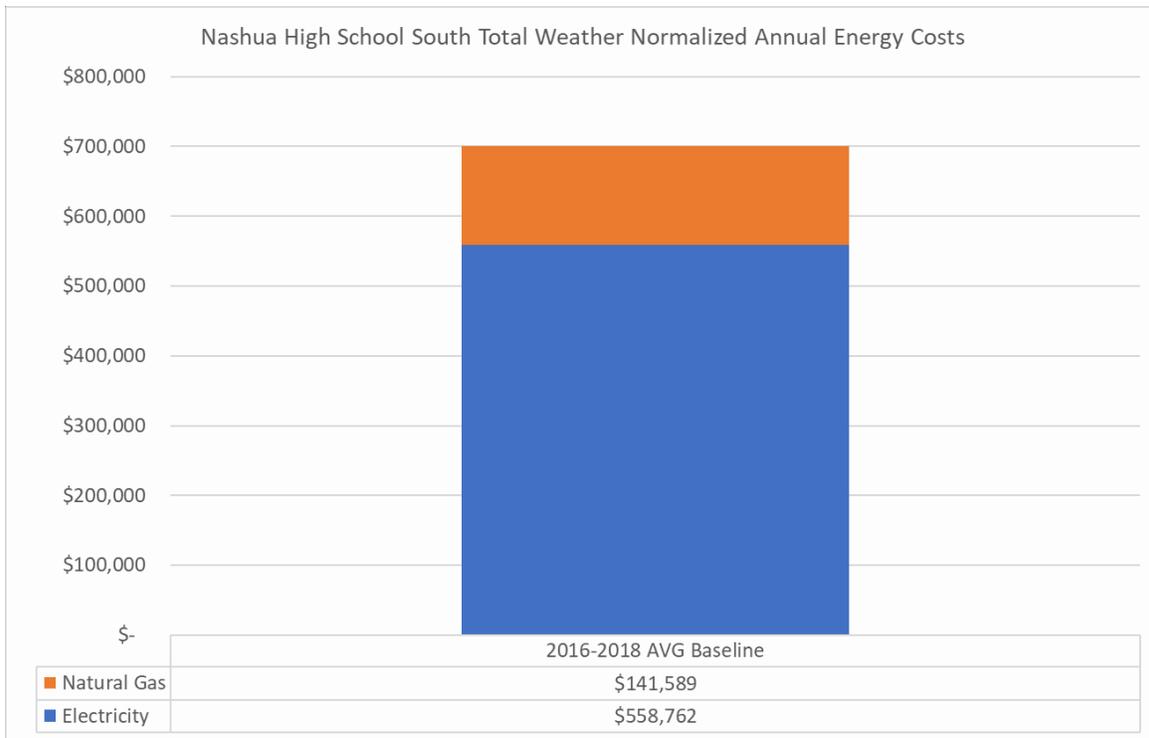
Electricity	\$ 0.15	/kWh	Natural Gas	\$ 1.00	/therm
-------------	---------	------	-------------	---------	--------

Nashua High School North

Year	HDD @ 65F Monthly	CDD @ 65F Monthly	Baseline Electrical Use (kWh)	Baseline Natural Gas Use (therm)	Baseline Total Energy Use (kBtu)	Actual Electrical Use (kWh)	Actual Natural Gas Use (therm)	Actual Total Energy Use (kBtu)	Baseline Elec Cost (\$)	Baseline Natural Gas Cost (\$)	Baseline Total Cost (\$)	Actual Elec Cost (\$)	Actual Gas Cost (\$)	Actual Total Cost (\$)	Savings	Baseline EUI	Actual EUI
2016-2018 AVG Baseline	6071	1050	3,948,662	141,816	27,654,435	3,948,662	141,816	27,654,435	\$ 592,299	\$ 141,816	\$ 734,115	\$ 592,299	\$ 141,816	\$ 734,115	\$ -	66	66

Nashua High School South

Year	HDD @ 65F Monthly	CDD @ 65F Monthly	Baseline Electrical Use (kWh)	Baseline Natural Gas Use (therm)	Baseline Total Energy Use (kBtu)	Actual Electrical Use (kWh)	Actual Natural Gas Use (therm)	Actual Total Energy Use (kBtu)	Baseline Elec Cost (\$)	Baseline Natural Gas Cost (\$)	Baseline Total Cost (\$)	Actual Elec Cost (\$)	Actual Gas Cost (\$)	Actual Total Cost (\$)	Savings	Baseline EUI	Actual EUI
2016-2018 AVG Baseline	6071	1050	3,725,082	141,589	26,868,880	3,725,082	141,589	26,868,880	\$ 558,762	\$ 141,589	\$ 700,351	\$ 558,762	\$ 141,589	\$ 700,351	\$ -	64	64



Conditional Savings Guarantee

1. Windows and doors must remain closed all the time during the heating season and all window a/c units must be removed prior to the beginning of the heating season as described below.
2. The new control system will use an “optimum start” sequence to determine the start-up time, which will likely be 6AM. This sequence will evaluate indoor/outdoor conditions by taking temperature and humidity measurements and start the equipment accordingly so that proper set-points are reached prior to occupancy. Shut off time will likely be 9PM, in order to give cleaning crew time to work.
3. The new heating set-point (Oct 1st – April 30th) will be 68°F and the cooling set-point (May 1st – Sept 30th) will be 72°F, as agreed to between EEI and the customer. Please see Appendix B for the standards of comfort.
4. EEI may conduct an annual site visit during which the lighting system and other ECMs will be inspected to verify proper operation, ensure that it has been maintained, and ensure that it continues to have the potential to generate the expected savings. Lights may be opened to verify lamp counts and ballast types, replacement stock may be inspected during the site visit to ensure that the proper replacement equipment is available.
5. The annual M&V report will detail the results of annual inspection, noting significant problems such as burned out lamps, change in operating hours, building size, addition of new equipment following project completion, etc.

Appendix A - Utility Bills provided by School District

Utility Bills may be provided upon request.

Appendix B – Standards of Comfort

EEI, Inc.

Nashua School District

Building	Occupied Setpoint °F Heating	Unoccupied Setpoint °F Heating	Occupied Setpoint °F Cooling	Unoccupied Setpoint °F Cooling
Nashua High School North				
Classrooms	68	60	72	80
Media Center	68	60	72	80
Cafeteria/Kitchen	68	60	72	80
Auditorium	68	60	72	80
Offices	68	60	72	80
Gym	68	60	72	80
Library	68	60	72	80
Hallways	68	60	72	80
Nashua High School South				
Classrooms	68	60	72	80
Media Center	68	60	72	80
Cafeteria/Kitchen	68	60	72	80
Auditorium	68	60	72	80
Offices	68	60	72	80
Gym	68	60	72	80
Library	68	60	72	80
Hallways	68	60	72	80

Notes:

1. All setpoints and times are suggested. Actual values to be determined after discussions with Nashua School District.
2. EEI will program a General Building Override button. This will allow the building operator to override the building schedule for non-scheduled events (such as snow days)

Attachment 5 - Major Equipment List (Bill of Materials)

- (6) Condensing Lochinvar Domestic Hot Water Heaters
- (6) Circulating Pumps
- (3) Lochinvar Domestic Water Storage Tanks
- (3) B&G Expansion Tanks
- (6,813) LED 2x4 and 2x4 retrofit fixtures with Spacewise control and wireless dimming capability
- (531) LED high bay fixtures with Spacewise control and wireless dimming capability
- (1103) LED recessed can fixtures
- (5,257) LED tubes and (2,994) LED drivers
- (332) LED lamps
- (227) LED round decorative fixtures
- (62) High Efficiency Transformers

Attachment 6 – Scope of Work and Project Schedule

For scope of work refer to IGA

Note all work is anticipated to be completed in November 2021. EEI and Nashua School District will coordinate access to building spaces for work completion.

Attachment 7 - Additional Construction or Operational Requirements

The customer will be required to provide the ESCO access to the work site during normal business hours. Some of the work activities may require the Customer to work around the contractors performing the work. Scheduling and coordination of construction activities will take place on a weekly basis to avoid unnecessary delay or disruptions to the contractors work and that of the Customer. Owner must maintain equipment per manufacturer's requirements.

Attachment 8 – Standards of Comfort

EEl, Inc.

Nashua School District

Building	Occupied Setpoint °F Heating	Unoccupied Setpoint °F Heating	Occupied Setpoint °F Cooling	Unoccupied Setpoint °F Cooling	Occupie /On Ti	Unoccupie /Off Time
Nashua High School Nort						
Classrooms	68	60	72	80	7:00 AM	3:30 PM
Media Center	68	60	72	80	7:00 AM	3:30 PM
Cafeteria/Kitchen	68	60	72	80	7:00 AM	3:30 PM
Auditorium	68	60	72	80	7:00 AM	3:30 PM
Offices	68	60	72	80	7:00 AM	3:30 PM
Gym	68	60	72	80	7:00 AM	3:30 PM
Library	68	60	72	80	7:00 AM	3:30 PM
Hallway s	68	60	72	80	7:00 AM	3:30 PM
Nashua High School South						
Classrooms	68	60	72	80	7:00 AM	3:30 PM
Media Center	68	60	72	80	7:00 AM	3:30 PM
Cafeteria/Kitchen	68	60	72	80	7:00 AM	3:30 PM
Auditorium	68	60	72	80	7:00 AM	3:30 PM
Offices	68	60	72	80	7:00 AM	3:30 PM
Gym	68	60	72	80	7:00 AM	3:30 PM
Library	68	60	72	80	7:00 AM	3:30 PM
Hallway s	68	60	72	80	7:00 AM	3:30 PM

Notes:

- 1. All setpoints and times are suggested. Actual values to be determined after discussions with Nashua School District.*
- 2. EEI will program a General Building Override button. This will allow the building operator to override the building schedule for non-scheduled events (such as snow days) manually.*

Attachment 9 – Not used

Attachment 12 – Customer Change Order Authorizations Form

Attachment 12



CUSTOMER CHANGE ORDER AUTHORIZATION FORM

Project Information	
Customer Name	
Project Name	
Project Location	
Project Number	200xxxxx
Change Order Number / Name	

DESCRIPTION OF CHANGE:

Sample Language - EEI was given Notice to Proceed (NTP) on xx/xx/xx and proceeded with the final design and procurement of This Change Order reflects the

See Attachment A – Additional Supporting Documents: _____

Reference Documents – Email from / to Subject, Date

CONTRACT VALUE:

Original Contract Amount	\$
Amount of Previous Change Orders	\$
Amount of This Change Order	\$
Revised Contract Amount	\$

This Change Order becomes part of and is in conformance with the existing Agreement. All terms and conditions of the agreement apply.

Customer Authorized

Signature: _____
 Name: _____
 Title: _____
 Date: _____

EEI Authorized Signature

Signature: _____
 Name: _____
 Title: _____
 Date: _____

Attachment 13 – M&V Continuing Service Contract (after yr 5)



SYSTEMS SUPPORT AGREEMENT

CUSTOMER: Nashua School District	Building or System or Node:
ADDRESS:	Nashua North High School
City, State, ZIP	Nashua South High School
Contact Name: EPC M&V Continuing Service	
Email:	Phone:

Systems Support will be provided at the following location(s):

Building Name	Node	EMS System Manufacturer	Age/Version
1. Nashua North HS	1	Control Technologies - Distech	5
2. Nashua South HS	1	Control Technologies - Distech	5
3.			
4.			
5.			

Energy Efficient Investments, Inc. agrees to provide the following Systems Support Services:

- | | |
|--|--|
| <input checked="" type="checkbox"/> ESA Guaranteed Savings M&V | <input type="checkbox"/> EMS Analytic Systems Support Services |
| <input checked="" type="checkbox"/> Standard – Annual Report | <input type="checkbox"/> Standard – Monthly Reports via Email |
| <input checked="" type="checkbox"/> Quarterly Reports | <input type="checkbox"/> Quarterly Reports |
| <input type="checkbox"/> Monthly Reports | <input type="checkbox"/> Monthly Reports |
| <input type="checkbox"/> Weekly Reports | <input type="checkbox"/> Weekly Reports |

Additional Options Offered:

- | | |
|--|---|
| <input type="checkbox"/> Monthly Report Review with Consultant | <input type="checkbox"/> Monthly Report Review with Consultant |
| <input checked="" type="checkbox"/> Preparation of M&V Reports | <input type="checkbox"/> Energy Savings Analysis |
| <input type="checkbox"/> | <input type="checkbox"/> Custom Rules (Defined in Attachment C) |

Reference ESA with Guarantee: _____

Systems Integration to Other Third Party Data Sources (Define in Appendix C)

- Work Order System: _____
- Space Management System: _____
- Other: _____

TERM OF THE AGREEMENT

M&V Agreement Year 2 through year 5, this agreement is renewable annually thereafter until the end of the Finance Term

Term of this Agreement Start Date: TBD through End Date: TBD

EMS Analytics Agreement Start Date: _____ through End Date: _____

(See Appendix "A" Level of Coverage, Appendix "B" List of Covered Equipment and Appendix "C" Additional Services and Provisions as applicable)



Terms and Payment:

This Agreement shall begin on xx/xx/xx and shall continue until xx/xx/xx and will be renewable for up to 3 year term thereafter until terminated in accordance with the general conditions as stated on reverse side.

See Attachment B for breakout pricing. Payment will be made quarterly and due within thirty (30) days of invoice date.

This Agreement along with all attachments and general conditions constitutes the entire Agreement between the parties and shall become a valid contract after written signature of acceptance by both parties and credit approval by Energy Efficient Investments, Inc. This Agreement supersedes all prior presentations and Agreements not incorporated herein.

Contract Extension Provision.

Contract can be extended with the same provisions with a 3% annual escalation of cost.

Customer Authorized Representative:

Energy Efficient Investments, Inc.

Proposed by: _____

Contract Reference: _____

Date: _____

Signature: _____

Title: _____

Date: _____



GENERAL CONDITIONS

1. This agreement applies only to equipment installed prior to effective date of this agreement and as described in this agreement. Normal working hours (7 a.m. to 3:30 p.m.; Monday through Friday, excluding holidays) will apply to all services, unless otherwise agreed to herein.
2. This agreement assumes the systems covered to be in maintainable condition. If repairs are found necessary upon initial inspection or initial seasonal start-up, repair charges will be submitted for approval. Should these restoration charges be declined, those non-maintainable items will be eliminated from the program and the agreement price adjusted accordingly.
3. It is agreed that the customer shall provide reasonable means of access to all devices which are to be maintained. Normal operation such as starting, stopping and resetting of the listed equipment is not included in this program. However, Energy Efficient Investments, Inc. shall be permitted to start and stop all equipment incidental to the operation of the mechanical system.
4. If the system is modified, changed or altered, or if any equipment is added, or if the system is removed within the premises or to other premises, Energy Efficient Investments, Inc., at its sole option, reserves the right to terminate or re-negotiate this agreement based on the condition of the system after the changes have been made.
5. It is agreed that the contract price shall be adjusted yearly after the initial term; such adjustments shall be consistent with Energy Efficient Investments, Inc. increases in subject contract labor and material costs. This agreement may be terminated after its initial term or any subsequent anniversary by either party by giving written notice to the other party a minimum of 30 days prior to the anniversary date.
6. Energy Efficient Investments, Inc. shall not, under any circumstances, be liable for injury to persons or damage to property unless such injury or damage is caused directly by a negligent act of omission or commission by Energy Efficient Investments, Inc.' agents, employees or subcontractors.
7. Energy Efficient Investments, Inc. and Customer assume the non-occurrence of the following contingencies which, without limitation, might render performance by Energy Efficient Investments, Inc. impractical: strikes, fires, war, acts of God, late or non-delivery by suppliers of Energy Efficient Investments, Inc., and all other contingencies beyond the reasonable control of Energy Efficient Investments, Inc. Under no circumstances shall Energy Efficient Investments, Inc. be liable for any special or consequential damages whether based upon lost goodwill, lost profits, work stoppage, impairment of other goods or otherwise; and whether arising out of breach of warranty, breach of contract, negligence or otherwise, except only in the case of personal injury where applicable law requires such liability. But in no event shall Energy Efficient Investments, Inc.'s liability exceed the purchase price paid under this contract.
8. The Customer shall pay Energy Efficient Investments, Inc., in addition to the contract price, the amount of all present and future taxes or any other government charge now or hereafter imposed by existent or future laws with respect to the transfer, use, ownership or possession of equipment to which this agreement relates, exclusive of ordinary personal property taxes assessed against Energy Efficient Investments, Inc.
9. Energy Efficient Investments, Inc. shall not be held responsible or liable whatsoever for the indoor air quality of the Customer's Facility.
10. In the event Energy Efficient Investments, Inc. is required to make any repairs and/or replacement and/or emergency calls occasioned by improper operation or misuse of equipment covered by this agreement or any cause beyond the control of Energy Efficient Investments, Inc., the customer shall reimburse Energy Efficient Investments, Inc. for expenses incurred in making repairs and/or replacements and/or emergency calls in accordance with the contracted rates for performing such service.
11. If equipment becomes non-repairable due to unavailability of replacement parts, Energy Efficient Investments, Inc., at its option, may remove the equipment from the contract and will not be required to maintain or service such equipment as a part of this agreement. However, Energy Efficient Investments, Inc. will assist the owner in replacing the equipment at an additional cost.
12. **If Customer chooses not to continue with this agreement before the term of any Energy Savings Guarantee Energy Efficient Investments, Inc. will no longer be responsible for the Measurement and Verification required under the associated Energy Services Agreement, and will no longer be responsible for any shortfalls that may occur.**
13. The price quoted is valid for thirty (30) days from the proposal date. Energy Efficient Investments, Inc., at its option, reserves the right to not accept this Agreement if it is signed by the Customer after this thirty (30) day period.
14. Energy Efficient Investments, Inc. reserves the right to discontinue this Systems Support Agreement at any time, without notice, if payments as agreed to have not been received by Energy Efficient Investments, Inc.



ATTACHMENT “A” – Definition of Coverage

ESA Guaranteed Savings M&V

This item is selected when there is an associated Guaranteed Energy Savings Project and is covered under a signed ESA between Energy Efficient Investments, Inc. and the Customer. This is an Agreement that follows the M&V during construction through the Warrantee period of 1 year. The M&V can also have the added component of EMS Analytics which would be highlighted below in that selection box with appropriate options selected. This Agreement is renewable after the first 3 year term. Escalation of cost will be limited to 3% annually thereafter. *If this Agreement is not renewed it could result in the cancelation of the Energy Savings Guarantee.*

Review with a Consultant

Preparing M&V Reports involve compiling energy bills, changes in building usage, weather data and other factors. The M&V Agreement in the ESA requires an annual report to the Customer. If the Customer would like to be more proactive and gain a better understanding of interpreting the results we can as an added service increase the frequency of the Report Review with a Consultant.

EMS Analytics System Support

This is an added service that can help EEI and the Customer better understand and track how a building is performing. This service can be a standalone service or selected in conjunction with an Energy Savings Guarantee M&V Agreement. The EMS Analytics reviews every point of contact in your EMS System against an established set of rules on. This is done on a Customer selected periodic basis. EEI prepares a report of the findings that includes an Executive Summary, Top Ten Current Issues, and tracks the resolved issues on an annual basis. The full data files can be made available for service and technical support as needed.

Review with an Analytics Consultant

To gain maximum value of the investment in EMS Analytics it is recommended that at least for a period of time you engage an EEI Consultant to help interpret and review the reports when produced. This service can be phased out of the Agreement without affecting the other items selected. Energy Efficient Investments, Inc. will arrange a conference call, there can be an unlimited number of participants. Participants can include EMS Contractors, Executive Management, Facilities Management or other. The Conference call should last about 1 half hour. This is an opportunity for understanding the results and assigning action items for corrective action. This is an effort to maximize the value of a Customers EMS investment.

Energy Savings Calculations

Much like the Review with the Analytic Consultant, we can add Utility Approved Energy Savings Calculation to each proposed improvement, or provide a value for not addressing the problem based on energy waste. These calculations will be added to the periodic EMS Analytic Report.

Custom Rules

Energy Efficient Investments, Inc. has developed a “Standard Set of Rules” by building type, should a Customer or their EMS Vendor need special “Rules” EEI will provide that as a one-time fee and include these added rules in the periodic EMS Analytic Report going forward.

Systems Integration to Other Third Part Data Sources

Energy Efficient Investments, Inc. has the capability to integrate to other third party software. The information taken from that software can be used to add information to the EMS Analytics. This service will be provided on a quoted basis and added to the EMS Service

Define Integration:



ATTACHMENT “B” – Extended Price Detail

	LIST BUILDING NAME/NODE AND SERVICE	FREQUENCY/TERM (START & COMPLETION)	COST OF ANNUAL ANALYTICS SYSTEM SUPPORT AGREEMENT
	Nashua North High School		
	Setup – Data Acquisition cost	Covered in Base EPC	
	Reporting	Prepared Monthly Reviewed Quarterly with Final Annual Report Per Contract	
	Consulting	\$145/hr	Not Included
	Energy Calculations		Not Included
	Custom Rules		Not Included
	Integration to Other 3 rd Party Software		Not Included
	Other		N/A
	Sub-Total:		
	Nashua South High School		
	Setup – Data Acquisition cost	Covered in Base EPC	Covered in Base EPC \$0
	Reporting	Prepared Monthly Reviewed Quarterly with Final Annual Report	
	Consulting		N/A
	Energy Calculations		Included in M&V
	Custom Rules		None
	Integration to Other 3 rd Party Software		N/A
	Other		
	Sub-Total:		
	List Exclusions:		
	Contract Total:		

ATTACHMENT "C" – ADDITIONAL SERVICES & PROVISIONS



DESCRIPTION OF ADDITIONAL SERVICES & COVERED EQUIPMENT

No additional services proposed at this time.

\$6,671,814
EQUIPMENT LEASE PURCHASE AGREEMENT
DATED AS OF OCTOBER 20, 2020, BETWEEN
MUNICIPAL LEASING CONSULTANTS, LLC, AS LESSOR, AND THE
CITY OF NASHUA, NEW HAMPSHIRE,
ON BEHALF OF NASHUA SCHOOL DISTRICT, AS LESSEE
CLOSING DATE: OCTOBER 20, 2020

LIST OF CLOSING DOCUMENTS

Document
Number

1. Equipment Lease Purchase Agreement, with the following exhibits attached:
Exhibit A: Equipment Schedule.
Exhibit B: Payment Schedule.
2. Escrow Agreement, with the following exhibits attached:
Exhibit A: Certificate of Acceptance and Payment Request.
Exhibit B-1: Incumbency Certificate regarding Lessee Representatives.
Exhibit B-2: Authorized Lessor Representatives.
3. Federal Tax Agreement, with the following exhibits attached:
Exhibit A: Amortization Schedule and Calculation of Weighted Average Maturity and Yield on the Agreement.
Exhibit B: IRS Form 8038-G.
Exhibit C: Description of Equipment Comprising the Financed Assets and Benefitted Facilities.
Exhibit D: Sample Annual Compliance Checklist.
Exhibit E: Certificate of Lender.
4. Lessee's Closing Certificate, with the following exhibits attached:
Exhibit A-1: Evidence of authorization from the City of Nashua.
Exhibit A-2: Evidence of authorization from Nashua School District.
Exhibit B: List of Outstanding Obligations (since June 30, 2019).
5. Essential Use Certificate.
6. Opinion of Lessee's Counsel.
7. Opinion of Special Tax Counsel.
8. Evidence of Insurance.
9. Energy Performance Contract.
10. Payment and Performance Bonds, together with Dual Oblige e Rider naming Lessor as additional obligee.
11. Notice of Assignment; Assignment.

**Document
Number**

12. UCC-1 Financing Statements:
 - A. Respecting the Equipment.
 - B. Respecting the Assignment.
13. Lender Certificate from Capital One Public Funding, LLC, together with related correspondence to Lessee.
14. Form W-9 from the City of Nashua, New Hampshire.

#

EQUIPMENT LEASE PURCHASE AGREEMENT

THIS EQUIPMENT LEASE PURCHASE AGREEMENT (the “Agreement”), is dated as of October 20, 2020, between **MUNICIPAL LEASING CONSULTANTS, LLC**, a limited liability company organized and existing under the laws of the State of Vermont, as Lessor (“Lessor”), and the **CITY OF NASHUA, NEW HAMPSHIRE, ON BEHALF OF NASHUA SCHOOL DISTRICT**, a political subdivision existing under the laws of the State of New Hampshire, as Lessee (“Lessee”), wherein the parties hereby agree as follows:

Section 1. Definitions. The following terms will have the meanings indicated below unless the context clearly requires otherwise:

“**Agreement**” means this Equipment Lease Purchase Agreement and any other schedule, exhibit or escrow agreement made a part hereof by the parties hereto, together with any amendments to this Agreement.

“**Code**” means the Internal Revenue Code of 1986, as amended.

“**Commencement Date**” is the date when the term of this Agreement and Lessee’s obligation to pay rent commences, which date will be the earlier of (i) the date on which the Equipment is accepted by Lessee in the manner described in **Section 13**, or (ii) the date on which sufficient moneys to purchase the Equipment are deposited for that purpose with an escrow agent.

“**Equipment**” means the property described on the Equipment Schedule attached hereto as **Exhibit A**, and all replacements, substitutions, repairs, restorations, modifications, attachments, accessions, additions and improvements thereof or thereto and all insurance and/or proceeds therefrom.

“**Event of Default**” means an Event of Default described in **Section 35**.

“**Issuance Year**” is the calendar year in which the Commencement Date occurs.

“**Lease Term**” means the Original Term and all Renewal Terms, but ending on the occurrence of the earliest event specified in **Section 6**.

“**Lessee**” means the entity described as such in the first paragraph of this Agreement, its successors and its assigns.

“**Lessor**” means the entity described as such in the first paragraph of this Agreement, its successors and its assigns.

“**Maximum Lease Term**” means the Original Term and all Renewal Terms through the Renewal Term including the last Rental Payment Date set forth on the Payment Schedule.

“**Net Proceeds**” means the amount remaining from the gross proceeds of any insurance claim or condemnation award after deducting all expenses (including attorneys’ fees) incurred in the collection of such claim or award.

“**Original Term**” means the period from the Commencement Date until the end of the fiscal year of Lessee in effect at the Commencement Date.

“**Payment Schedule**” means the schedule of Rental Payments and Purchase Price set forth on **Exhibit B**.

“**Purchase Price**” means the amount set forth on the Payment Schedule that Lessee may, at its option, pay to Lessor to purchase the Equipment.

“**Renewal Terms**” means the optional renewal terms of this Agreement, each having a duration of one year and a term co-extensive with Lessee’s fiscal year.

“**Rental Payment Dates**” means the dates set forth on the Payment Schedule on which Rental Payments are due.

“Rental Payments” means the basic rental payments payable by Lessee pursuant to **Section 9**.

“State” means the State of New Hampshire.

“Vendor” means the manufacturer of the Equipment as well as the agents or dealers of the manufacturer from whom the Equipment is or has been purchased, as listed on **Exhibit A**.

Section 2. Representations and Covenants of Lessee. Lessee represents, warrants and covenants for the benefit of Lessor as follows:

(a) Lessee is a political subdivision duly organized and existing under the constitution and laws of the State. Lessee will do or cause to be done all things to preserve and keep in full force and effect its existence as a political subdivision. Lessee has a substantial amount of one or more of the following sovereign powers: (i) the power to tax, (ii) the power of eminent domain, and (iii) police power.

(b) Lessee is authorized under the constitution and laws of the State to enter into this Agreement and the transaction contemplated hereby and to perform all of its obligations hereunder.

(c) Lessee has been duly authorized to execute and deliver this Agreement by proper action and approval of its governing body at a meeting duly called, regularly convened and attended throughout by a requisite majority of the members thereof or by other appropriate official approval.

(d) This Agreement constitutes the legal, valid and binding obligation of Lessee enforceable in accordance with its terms, except to the extent limited by applicable bankruptcy, insolvency, reorganization or other laws affecting creditors' rights generally.

(e) No event or condition that constitutes, or with the giving of notice or the lapse of time or both would constitute, an Event of Default exists at the Commencement Date.

(f) Lessee has, in accordance with the requirements of law, fully budgeted and appropriated sufficient funds for the current fiscal year to make the Rental Payments scheduled to come due during the Original Term and to meet its other obligations for the Original Term, and such funds have not been expended for other purposes.

(g) Lessee has complied with such public bidding requirements as may be applicable to this Agreement and the acquisition by Lessee of the Equipment hereunder.

(h) There is no action, suit, proceeding, inquiry or investigation, at law or in equity, before or by any court, public board or body, pending or threatened against or affecting Lessee, nor to the best knowledge of Lessee is there any basis therefor, wherein an unfavorable decision, ruling or finding would materially adversely affect the transactions contemplated by this Agreement or any other document, agreement or certificate which is used or contemplated for use in the consummation of the transactions contemplated by this Agreement or materially adversely affect the financial condition or properties of Lessee.

(i) All authorizations, consents and approvals of governmental bodies or agencies required in connection with the execution and delivery by Lessee of this Agreement or in connection with the carrying out by Lessee of its obligations hereunder have been obtained.

(j) The entering into and performance of this Agreement or any other document or agreement contemplated hereby to which Lessee is or is to be a party will not violate any judgment, order, law or regulation applicable to Lessee or result in any breach of, or constitute a default under, or result in the creation of any lien, charge, security interest or other encumbrance on any assets of Lessee or the Equipment pursuant to any indenture, mortgage, deed of trust, bank loan or credit agreement or other instrument to which Lessee is a party or by which it or its assets may be bound, except as herein provided.

(k) The Equipment described in this Agreement is essential to the function of Lessee or to the service Lessee provides to its citizens. Lessee has an immediate need for, and expects to make immediate use of,

substantially all the Equipment, which need is not temporary or expected to diminish in the foreseeable future. The Equipment will be used by Lessee only for the purpose of performing one or more of Lessee's governmental or proprietary functions consistent with the permissible scope of Lessee's authority.

(l) Neither the payment of the Rental Payments hereunder nor any portion thereof is (i) secured by any interest in property used or to be used in a trade or business of a non-exempt person (within the meaning of Section 103 of the Code) or in payments in respect of such property or (ii) derived from payments in respect of property, or borrowed money, used or to be used in a trade or business of a non-exempt person (within the meaning of Section 103 of the Code). No portion of the Equipment will be used directly or indirectly in any trade or business carried on by any non-exempt person (within the meaning of Section 103 of the Code).

(m) Lessee will comply with all applicable provisions of the Code, including without limitation Sections 103 and 148 thereof, and the applicable regulations of the Treasury Department to maintain the exclusion of the interest components of Rental Payments from gross income for purposes of federal income taxation.

(n) Lessee will use the proceeds of this Agreement as soon as practicable and with all reasonable dispatch for the purpose for which this Agreement has been entered into. No part of the proceeds of this Agreement will be invested in any securities, obligations or other investments or used, at any time, directly or indirectly, in a manner which, if such use had been reasonably anticipated on the date of execution and delivery of this Agreement, would have caused any portion of this Agreement to be or become an "arbitrage bond" within the meaning of Section 103(b)(2) or Section 148 of the Code and the applicable regulations of the Treasury Department.

(o) Lessee has never failed to pay payments coming due under any bond issue, lease purchase agreement or other indebtedness obligation of Lessee.

(p) The useful life of the Equipment will not be less than the Maximum Lease Term.

(q) The application, statements and credit or financial information submitted by Lessee to Lessor are true and correct and made to induce Lessor to enter into this Agreement and the escrow agreement, if any, and Lessee has experienced no material change in its financial condition since the date(s) of such information.

(r) Lessee has provided Lessor with audited financial statements through June 30, 2019. Lessee has experienced no material change in its financial condition or in the revenues expected to be utilized to meet Rental Payments due under this Agreement since June 30, 2019.

(s) Lessee shall pay the excess (if any) of the actual costs of acquiring the Equipment under this Agreement over the amount deposited by Lessor in the escrow fund, if any, established under any related escrow agreement and interest earnings thereon.

(s) Lessee is the fee owner of the real estate where the Equipment is and will be located and has good and marketable title thereto, and there exists no mortgage, pledge, lien, security interest, charge or other encumbrance of any nature whatsoever on or with respect to such real estate. The Equipment is not a replacement, repair, substitution or proceeds of any equipment or personal property subject to a prior lien or security interest of a third party.

Section 3. Certification as to Arbitrage. Lessee hereby represents as follows:

(a) The estimated total costs of the Equipment, together with any costs of entering into this Agreement that are expected to be financed under this Agreement, will not be less than the total principal portion of the Rental Payments.

(b) The Equipment has been ordered or is expected to be ordered within six months of the Commencement Date, and the Equipment is expected to be delivered and installed, and the Vendor fully paid, within eighteen months of the Commencement Date.

(c) Lessee has not created or established, and does not expect to create or establish, any sinking fund or other similar fund (i) that is reasonably expected to be used to pay the Rental Payments, or (ii) that may be used solely to prevent a default in the payment of the Rental Payments.

(d) The Equipment has not been and is not expected to be sold or otherwise disposed of by Lessee, either in whole or in major part, prior to the last maturity of the Rental Payments.

(e) To the best of our knowledge, information and belief, the above expectations are reasonable.

Section 4. Lease of Equipment. Lessor hereby demises, leases and lets the Equipment to Lessee, and Lessee rents, leases and hires the Equipment from Lessor, in accordance with the provisions of this Agreement, for the Lease Term.

Section 5. Lease Term. The Original Term of this Agreement will commence on the Commencement Date and will terminate on the last day of Lessee's current fiscal year. The Lease Term may be continued, solely at the option of Lessee, at the end of the Original Term or any Renewal Term for an additional Renewal Term up to the Maximum Lease Term. At the end of the Original Term and at the end of each Renewal Term until the Maximum Lease Term has been completed, Lessee will be deemed to have exercised its option to continue this Agreement for the next Renewal Term unless Lessee has terminated this Agreement pursuant to **Section 6** or **Section 31**. The terms and conditions during any Renewal Term will be the same as the terms and conditions during the Original Term, except that the Rental Payments will be as provided in the Payment Schedule.

Section 6. Termination of Lease Term. The Lease Term will terminate upon the earliest of any of the following events:

(a) the expiration of the Original Term or any Renewal Term of this Agreement and the nonrenewal of this Agreement in the event of nonappropriation of funds pursuant to **Section 8**;

(b) the exercise by Lessee of the option to purchase the Equipment under the provisions of **Section 31** and payment of the Purchase Price and all amounts payable in connection therewith;

(c) a default by Lessee and Lessor's election to terminate this Agreement under **Section 36**; or

(d) the payment by Lessee of all Rental Payments authorized or required to be paid by Lessee hereunder during the Maximum Lease Term.

Section 7. Continuation of Lease Term. Lessee currently intends, subject to the provisions of **Section 8** and **Section 12**, to continue the Lease Term through the Original Term and all of the Renewal Terms and to pay the Rental Payments hereunder. Lessee reasonably believes that legally available funds in an amount sufficient to make all Rental Payments during the Original Term and each of the Renewal Terms can be obtained. The responsible financial officer of Lessee will do all things lawfully within his or her power to obtain and maintain funds from which the Rental Payments may be made, including making provision for such Rental Payments to the extent necessary in each proposed annual budget submitted for approval in accordance with applicable procedures of Lessee and to exhaust all available reviews and appeals in the event such portion of the budget is not approved. Notwithstanding the foregoing, the decision whether or not to budget or appropriate funds or to extend this Agreement for any Renewal Term is solely within the discretion of the then current governing body of Lessee.

Section 8. Nonappropriation. Lessee is obligated only to pay such Rental Payments under this Agreement as may lawfully be made from funds budgeted and appropriated for that purpose during Lessee's then current fiscal year. In the event sufficient funds will not be appropriated or are not otherwise legally available to pay the Rental Payments required to be paid in the next occurring Renewal Term, as set forth in the Payment Schedule, this Agreement will be deemed to be terminated at the end of the then current Original Term or Renewal Term. Lessee agrees to deliver notice to Lessor of such termination at least 90 days prior to the end of the then current Original Term or Renewal Term, but failure to give such notice will not extend the Lease Term beyond such Original Term or Renewal Term. If this Agreement is terminated in accordance with this Section, Lessee agrees, at Lessee's cost and expense, to peaceably deliver the Equipment to Lessor at the location or locations specified by Lessor.

Section 9. Rental Payments. Lessee will pay Rental Payments from all legally available funds, in lawful money of the United States of America to Lessor in the amounts and on the dates set forth on the Payment Schedule, such payment to be made by wire or other form of electronic payment in accordance with written instructions provided by Lessor or, with Lessor's consent, by such other commercially reasonable method of payment. Rental Payments will be in consideration for Lessee's use of the Equipment during the fiscal year in which such payments are due. Any Rental Payment not received on or before its due date will bear interest at the rate of 10% per annum or the maximum amount permitted by law, whichever is less, from its due date.

In the event that it is determined that any of the interest components of Rental Payments may not be excluded from gross income for purposes of federal income taxation, Lessee agrees to pay to Lessor promptly after any such determination and on each Rental Payment Date thereafter an additional amount determined by Lessor to compensate Lessor for the loss of such excludability (including without limitation, compensation relating to interest expense, penalties or additions to tax), which determination shall be conclusive absent manifest error.

Section 10. Interest Component. As set forth on the Payment Schedule, a portion of each Rental Payment is paid as, and represents payment of, interest.

Section 11. Rental Payments To Be Unconditional. Except as provided in Section 8, the obligations of Lessee to make Rental Payments and to perform and observe the other covenants and agreements contained herein shall be absolute and unconditional in all events without abatement, diminution, deduction, set-off or defense, for any reason, including without limitation any failure by any Vendor to deliver or install the Equipment or otherwise perform any of its obligations for whatever reason, including bankruptcy, insolvency, reorganization or similar event with respect to any Vendor or under any Vendor Agreement, disputes with Lessor or the Vendor of any of the Equipment, any defects, malfunctions, breakdowns or infirmities in the Equipment or any accident, condemnation or unforeseen circumstances.

Section 12. Rental Payments to Constitute a Current Expense of Lessee. The obligation of Lessee to pay Rental Payments hereunder will constitute a current expense of Lessee, are from year to year and do not constitute a mandatory payment obligation of Lessee in any fiscal year beyond the then current fiscal year of Lessee. Lessee's obligation hereunder will not in any way be construed to be an indebtedness of Lessee in contravention of any applicable constitutional, charter or statutory limitation or requirement concerning the creation of indebtedness by Lessee, nor will anything contained herein constitute a pledge of the general credit, tax revenues, funds or moneys of Lessee.

Section 13. Delivery, Installation and Acceptance of the Equipment. Lessee will order the Equipment, cause the Equipment to be delivered and installed at the locations specified on **Exhibit A** and pay any and all delivery and installation costs in connection therewith. When the Equipment has been delivered and installed, Lessee will immediately accept the Equipment and evidence said acceptance by executing and delivering to Lessor an acceptance certificate in form and substance acceptable to Lessor. After it has been delivered and installed, the Equipment will not be moved from the location(s) specified on **Exhibit A** without Lessor's consent, which consent will not be unreasonably withheld.

Section 14. Enjoyment of Equipment. Lessor hereby covenants to provide Lessee with quiet use and enjoyment of the Equipment during the Lease Term, and Lessee will peaceably and quietly have and hold and enjoy the Equipment during the Lease Term, without suit, trouble or hindrance from Lessor, except as otherwise expressly set forth in this Agreement.

Section 15. Right of Inspection. Lessor will have the right at all reasonable times during regular business hours to enter into and upon the property of Lessee for the purpose of inspecting the Equipment.

Section 16. Use of the Equipment. Lessee will not install, use, operate or maintain the Equipment improperly, carelessly, in violation of any applicable law or in a manner contrary to that contemplated by this Agreement. Lessee will obtain all permits and licenses, if any, necessary for the installation and operation of the Equipment. In addition, Lessee agrees to comply in all respects (including, without limitation, with respect to the use, maintenance and operation of each item of the Equipment) with all

applicable laws, regulations and rulings of any legislative, executive, administrative or judicial body; provided, however, that Lessee may contest in good faith the validity or application of any such law, regulation or ruling in any reasonable manner that does not, in the opinion of Lessor, adversely affect the interest of Lessor in and to the Equipment or its interest or rights under this Agreement.

Section 17. Maintenance of Equipment. Lessee agrees that it will, at Lessee's own cost and expense, maintain, preserve and keep the Equipment in good repair, working order and condition. Lessor will have no responsibility to maintain, or repair or to make improvements or additions to the Equipment. If requested to do so by Lessor, Lessee will enter into a maintenance contract for the Equipment with Vendor.

Section 18. Title to the Equipment. During the Lease Term, title to the Equipment and any and all additions, repairs, replacements or modifications will vest in Lessee, subject to the rights of Lessor under this Agreement; provided that title will thereafter immediately and without any action by Lessee vest in Lessor, and Lessee will immediately surrender possession of the Equipment to Lessor upon (a) any termination of this Agreement other than termination pursuant to **Section 31** or (b) the occurrence of an Event of Default. It is the intent of the parties hereto that any transfer of title to Lessor pursuant to this Section will occur automatically without the necessity of any bill of sale, certificate of title or other instrument of conveyance. Lessee will, nevertheless, execute and deliver any such instruments as Lessor may request to evidence such transfer. Lessee irrevocably designates, makes, constitutes and appoints Lessor and its assignee as Lessee's true and lawful attorney (and agent in-fact) with power, at such time of termination or times thereafter as Lessor in its sole and absolute discretion may determine, in Lessee's or Lessor's or such assignee's name, to endorse the name of Lessee upon any bill of sale, document, instrument, invoice, freight bill, bill of lading or similar document relating to the Equipment in order to vest title in Lessor and transfer possession to Lessor.

Section 19. Security Interest. To secure the payment of all of Lessee's obligations under this Agreement and to the extent permitted by law, Lessor retains a security interest constituting a first lien on the Equipment. Lessee agrees to execute such additional documents in form satisfactory to Lessor, that Lessor deems necessary or appropriate to establish and maintain its security interest. Lessee agrees that financing statements may be filed with respect to the security interest in the Equipment.

As further security therefor, Lessee grants to Lessor a first priority security interest in the cash and negotiable instruments from time to time comprising the escrow fund, if any, established under any related escrow agreement and all proceeds (cash and non-cash) thereof, and agrees with respect thereto that Lessor shall have all the rights and remedies of a secured party.

Section 20. Personal Property; No Encumbrances. Lessor and Lessee agree that the Equipment is and will remain personal property. The Equipment will not be deemed to be affixed to or a part of the real estate on which it may be situated, notwithstanding that the Equipment or any part thereof may be or hereafter become in any manner physically affixed or attached to such real estate or any building thereon. Upon the request of Lessor, Lessee will, at Lessee's expense, furnish a waiver of any interest in the Equipment from any party having an interest in any such real estate or building. Lessee shall not create, incur, assume or permit to exist any mortgage, pledge, lien, security interest, charge or other encumbrance of any nature whatsoever on any of the real estate where the Equipment is or will be located or enter into any agreement to sell or assign or enter into any sale/leaseback arrangement of such real estate without the prior written consent of Lessor; provided, that if Lessor or its assigns is furnished with a waiver of interest in the Equipment acceptable to Lessor or its assigns in its discretion from any party taking an interest in any such real estate prior to such interest taking effect, such consent shall not unreasonably withheld.

Section 21. Liens, Taxes, Other Governmental Charges and Utility Charges. Lessee will keep the Equipment free and clear of all liens, charges and encumbrances, except those created under this Agreement. The parties to this Agreement contemplate that the Equipment will be used for a governmental or proprietary purpose of Lessee and, therefore, that the Equipment will be exempt from all property taxes and other similar charges. If the use, possession or acquisition of the Equipment is found to be subject to taxation in any form, Lessee will pay all taxes and governmental charges lawfully assessed or levied against or with respect to the Equipment. Lessee will pay all utility and other charges incurred in the use and maintenance of the Equipment. Lessee will pay such taxes and charges as the same

become due; provided that, with respect to any such taxes and charges that may lawfully be paid in installments over a period of years, Lessee will be obligated to pay only such installments that accrue during the Lease Term.

Section 22. Insurance. At its own expense, Lessee will maintain (a) casualty insurance insuring the Equipment against loss or damage by fire and all other risks covered by the standard extended coverage endorsement then in use in the State and any other risks reasonably required by Lessor in an amount at least equal to the then applicable Purchase Price of the Equipment, (b) liability insurance that protects Lessor from liability in all events in form and amount satisfactory to Lessor, and (c) workers' compensation coverage as required by the laws of the State; provided that, with Lessor's prior written consent, Lessee may self-insure against the risks described in clauses (a) and (b). Lessee shall also provide or cause to be provided to Lessor payment and performance bonds from the Vendor, each naming Lessor as a dual obligee and issued by a surety company rated "A" or better by AM Best in an amount equal to the Equipment. All insurance proceeds from casualty losses will be payable as hereinafter provided. Lessee will furnish to Lessor certificates evidencing such coverage throughout the Lease Term.

All such casualty and liability insurance will be with insurers that are acceptable to Lessor and will contain a provision to the effect that such insurance will not be cancelled or modified materially without first giving written notice thereof to Lessor at least ten days in advance of such cancellation or modification. All such casualty insurance will name Lessor as a loss payee and an additional insured. All such liability insurance will name Lessor as an additional insured.

Section 23. Advances. In the event Lessee fails to maintain the insurance required by this Agreement, pay taxes or charges required to be paid by it under this Agreement or fails to keep the Equipment in good repair and operating condition, Lessor may (but will be under no obligation to) purchase the required policies of insurance and pay the cost of the premiums on the thereof, pay such taxes and charges and make such Equipment repairs or replacements as are necessary and pay the cost thereof. All amounts so advanced by Lessor will become additional rent for the then current Original Term or Renewal Term. Lessee agrees to pay such amounts with interest thereon from the date paid at the rate of 10% per annum or the maximum permitted by law, whichever is less.

Section 24. Financial Information. Upon request, Lessee shall furnish or cause to be furnished to Lessor, at Lessee's expense, as soon as available after the close of each fiscal year, the audited financial statement of Lessee at the close of and for such fiscal year, all in reasonable detail, with supporting schedules, audited by and with the report of Lessee's auditor (the "Audit"), which may be in electronic .pdf format. In the event the Audit is filed on the MSRB's "EMMA" website, to satisfy this requirement Lessee may email a link to the posted Audit to Lessor. The electronic Audit or EMMA link may be sent to the following email address (or such other address as Lessor supplies to Lessee in writing): Yvonne2.foley@capitalone.com (Yvonne Foley). In the event that the Audit is not available, Lessee will furnish unaudited financial statements to Lessor in the manner described in this Section, and will then supply the Audit immediately upon the availability thereof.

Section 25. Release and Indemnification. To the extent permitted by law, Lessee will indemnify, protect and hold harmless Lessor from and against any and all liability, obligations, losses, claims and damages whatsoever, regardless of cause thereof, and expenses in connection therewith (including, without limitation, counsel fees and expenses and any federal income tax and interest and penalties connected therewith imposed on interest received) arising out of or as the result of (a) the entering into this Agreement, (b) the ownership of any item of the Equipment, (c) the manufacturing, ordering, acquisition, use, operation, condition, purchase, delivery, rejection, storage or return of any item of the Equipment, (d) any accident in connection with the operation, use, condition, possession, storage or return of any item of the Equipment resulting in damage to property or injury or death to any person or (e) the breach of any covenant herein or any material misrepresentation contained herein. The indemnification arising under this paragraph will continue in full force and effect notwithstanding the full payment of all obligations under this Agreement or the termination of the Lease Term for any reason.

Section 26. Risk of Loss. Lessee assumes, from and including the Commencement Date, all risk of loss of or damage to the Equipment from any cause whatsoever. No such loss of or damage to the Equipment nor defect therein nor unfitness or obsolescence thereof will relieve Lessee of the obligation to make Rental Payments or to perform any other obligation under this Agreement.

Section 27. Damage, Destruction, Condemnation; Use of Proceeds. If (a) the Equipment or any portion thereof is destroyed, in whole or in part, or is damaged by fire or other casualty, or (b) title to, or the temporary use of, the Equipment or any part thereof or the interest of Lessee or Lessor in the Equipment or any part thereof will be taken under the exercise of the power of eminent domain by any governmental body or by any person, firm or corporation acting under governmental authority, Lessee and Lessor will cause the Net Proceeds of any insurance claim or condemnation award to be applied to the prompt replacement, repair, restoration, modification or improvement of the Equipment, unless Lessee has exercised its option to purchase the Equipment pursuant to **Section 31**. Any balance of the Net Proceeds remaining after such work has been completed will be paid to Lessee.

Section 28. Insufficiency of Net Proceeds. If the Net Proceeds are insufficient to pay in full the cost of any repair, restoration, modification or improvement referred to in **Section 27**, Lessee will either (a) complete such replacement, repair, restoration, modification or improvement and pay any costs thereof in excess of the amount of the Net Proceeds, or (b) purchase Lessor's interest in the Equipment pursuant to **Section 31**. The amount of the Net Proceeds, if any, remaining after completing such repair, restoration, modification or improvement or after purchasing the Equipment will be retained by Lessee. If Lessee will make any payments pursuant to this Section, Lessee will not be entitled to any reimbursement therefor from Lessor nor will Lessee be entitled to any diminution of the amounts payable under **Section 9**.

Section 29. Disclaimer of Warranties. *LESSOR MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, AS TO THE VALUE, DESIGN, CONDITION, MERCHANTABILITY OR FITNESS FOR PARTICULAR USE OR PURPOSE OF THE EQUIPMENT OR AGAINST INFRINGEMENT, OR ANY OTHER WARRANTY OR REPRESENTATION WITH RESPECT THERETO. IN NO EVENT SHALL LESSOR BE LIABLE FOR ANY ACTUAL, INCIDENTAL, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGE IN CONNECTION WITH OR ARISING OUT OF THIS AGREEMENT OR THE EXISTENCE, FURNISHING, FUNCTIONING OR LESSEE'S USE OR MAINTENANCE OF ANY EQUIPMENT OR SERVICES PROVIDED FOR IN THIS AGREEMENT.*

Section 30. Vendor's Warranties. Lessee may have rights under the contract evidencing the purchase of the Equipment; Lessee is advised to contact the Vendor for a description of any such rights. Lessee hereby assigns to Lessor during the Lease Term all warranties running from Vendor to Lessee. Lessor hereby irrevocably appoints Lessee its agent and attorney-in-fact during the Lease Term, so long as Lessee will not be in default hereunder, to assert from time to time whatever claims and rights (including without limitation warranties) related to the Equipment that Lessor may have against the Vendor. Lessee's sole remedy for the breach of any such warranty, indemnification or representation will be against the Vendor, and not against Lessor. Any such matter will not have any effect whatsoever on the rights and obligations of Lessor with respect to this Agreement, including the right to receive full and timely payments hereunder. Lessee expressly acknowledges that Lessor makes, and has made, no representations or warranties whatsoever as to the existence or availability of such warranties by the Vendor.

Section 31. Purchase Option; Prepayment.

(a) Lessee will have the option to purchase the Equipment, upon giving written notice to Lessor at least 30 days before the date of purchase, at the following times and upon the following terms:

(i) On any Rental Payment Date, upon payment in full of the Rental Payment then due hereunder plus all other amounts due hereunder plus the then-applicable Purchase Price to Lessor; or

(ii) In the event of substantial damage to or destruction or condemnation (other than by Lessee or any entity controlled by or otherwise affiliated with Lessee) of substantially all of the Equipment, on the day Lessee specifies as the purchase date in Lessee's notice to Lessor of its exercise of the purchase option, upon payment in full of the Rental Payment and all other amounts then due hereunder plus (A) the Purchase Price designated on the Payment Schedule for such purchase date if such purchase date is a Rental Payment Date or the Purchase Price for the immediately preceding Rental Payment Date if such purchase date is not a Rental Payment Date, and (B) if such day is not a Rental Payment Date, an amount equal to the portion of the interest component of the Rental Payment scheduled to come due on the following Rental Payment Date accrued from the immediately preceding

Rental Payment Date to such purchase date, computed on the basis of a 360-day year of twelve 30-day months.

Upon the exercise of the option to purchase set forth above, title to the Equipment will be vested in Lessee, free and clear of any claim by or through Lessor.

(b) In the event monies remain in any escrow fund established under an escrow agreement, upon receipt by the escrow agent under such escrow agreement of a duly executed certificate of acceptance and payment request identified as the final such request, the remaining monies in such escrow fund shall, first be applied to all reasonable fees and expenses incurred by such escrow agent, if applicable, in connection with such escrow fund as evidenced by its statement forwarded to Lessor and Lessee; and, second be paid to Lessor, for application against the outstanding principal components of Rental Payments, including prepayment of Rental Payments hereunder, unless Lessor directs that payment of such amount be made in such other manner that, in the opinion of nationally recognized counsel in the area of tax exempt municipal obligations satisfactory to Lessor, will not adversely affect the exclusion of the interest components of Rental Payments from gross income for federal income tax purposes. If any such amount is applied against the outstanding principal components of Rental Payments, the Payment Schedule attached here to will be revised accordingly.

Section 32. Determination of Fair Purchase Price. Lessee and Lessor hereby agree and determine that the Rental Payments hereunder during the Original Term and each Renewal Term represent the fair value of the use of the Equipment and that the amount required to exercise Lessee's option to purchase the Equipment pursuant to **Section 31** represents, as of the end of the Original Term or any Renewal Term, the fair purchase price of the Equipment. Lessee hereby determines that the Rental Payments do not exceed a reasonable amount so as to place Lessee under a practical economic compulsion to renew this Agreement or to exercise its option to purchase the Equipment hereunder. In making such determinations, Lessee and Lessor have given consideration to (a) the costs of the Equipment, (b) the uses and purposes for which the Equipment will be employed by Lessee, (c) the benefit to Lessee by reason of the acquisition and installation of the Equipment and the use of the Equipment pursuant to the terms and provisions of this Agreement, and (d) Lessee's option to purchase the Equipment. Lessee hereby determines and declares that the acquisition and installation of the Equipment and the leasing of the Equipment pursuant to this Agreement will result in equipment of comparable quality and meeting the same requirements and standards as would be necessary if the acquisition and installation of the Equipment were performed by Lessee other than pursuant to this Agreement. Lessee hereby determines and declares that the Maximum Lease Term does not exceed the useful life of the Equipment.

Section 33. Assignment by Lessor. Lessor's interest in, to and under this Agreement and the Equipment may be assigned and reassigned in whole or in part to one or more assignees by Lessor without the necessity of obtaining the consent of Lessee; and such assignment, transfer or conveyance shall be made only to (i) an affiliate of Lessor or (ii) banks, insurance companies or other financial institutions or their affiliates, but no such assignment, transfer or conveyance shall be effective as against Lessee unless and until Lessor has delivered to Lessee written notice thereof that discloses the name(s) and address(es) of the assignee(s) or the Lease Servicer (as hereafter provided). Nothing herein shall limit the right of Lessor or its assignees to sell, assign or grant participation interests in this Agreement to one or more entities listed in (i) or (ii); provided that if such assignment is made pursuant to a participation, custodial or similar agreement under which multiple ownership interests in this Agreement are created, it shall establish a single entity, owner, servicer or other fiduciary or agent to act on behalf of all of the holders of such participation interests (herein referred to as the "Lease Servicer") with respect to the rights and interests of such holders hereunder, including the exercise of rights and remedies thereunder upon the occurrence of an event of default or an event of non-appropriation, and further including the maintenance of a register by which a record of the names and addresses of such holders as of any particular time is kept and agrees, upon request of Lessee, to furnish such information to Lessee. Lessee will retain all notices of assignment as a register of all assignees and will make all payments to the assignee, assignees or Lease Servicer designated in such register. Lessee agrees to execute all documents, including notices of assignment and chattel mortgages or financing statements that may be reasonably requested by Lessor or any assignee to protect its interest in the Equipment and in this Agreement and agrees to the filing of financing statements with respect to the Equipment and this Agreement. Lessee will not have the right to and will not assert against any assignee any claim, counterclaim, defense, set-off or other right Lessee may have against Lessor.

Section 34. Assignment and Subleasing by Lessee. None of Lessee's right, title and interest in, to and under this Agreement and the Equipment may be assigned or encumbered by Lessee for any reason, except that Lessee may sublease all or part of the Equipment if Lessee obtains the prior written consent of Lessor and an opinion of nationally recognized counsel in the area of tax exempt municipal obligations satisfactory to Lessor that such subleasing will not adversely affect the exclusion of the interest components of the Rental Payments from gross income for federal income tax purposes. Any such sublease of all or part of the Equipment will be subject to this Agreement and the rights of Lessor in, to and under this Agreement and the Equipment.

Section 35. Events of Default Defined. Subject to the provisions of **Section 8**, any of the following will be "Events of Default" under this Agreement:

- (a) Failure by Lessee to pay any Rental Payment or other payment required to be paid hereunder at the time specified herein;
- (b) Failure by Lessee to observe and perform any covenant, condition or agreement on its part to be observed or performed, other than as referred to in **Section 35(a)**, for a period of 30 days after written notice, specifying such failure and requesting that it be remedied, is given to Lessee by Lessor, unless Lessor will agree in writing to an extension of such time prior to its expiration; provided, however, if the failure stated in the notice cannot be corrected within the applicable period, Lessor will not unreasonably withhold its consent to an extension of such time if corrective action is instituted by Lessee within the applicable period and diligently pursued until the default is corrected;
- (c) Any statement, representation or warranty made by Lessee in or pursuant to this Agreement or its execution, delivery or performance will prove to have been false, incorrect, misleading or breached in any material respect on the date when made;
- (d) Any provision of this Agreement will at any time for any reason cease to be valid and binding on Lessee, or will be declared to be null and void, or the validity or enforceability thereof will be contested by Lessee or any governmental agency or authority if the loss of such provision would materially adversely affect the rights or security of Lessor, or Lessee will deny that it has any further liability or obligation under this Agreement;
- (e) Lessee will (i) apply for or consent to the appointment of a receiver, trustee, custodian or liquidator of Lessee, or of all or a substantial part of the assets of Lessee, (ii) be unable, fail or admit in writing its inability generally to pay its debts as they become due, (iii) make a general assignment for the benefit of creditors, (iv) have an order for relief entered against it under applicable federal bankruptcy law, or (v) file a voluntary petition in bankruptcy or a petition or an answer seeking reorganization or an arrangement with creditors or taking advantage of any insolvency law or any answer admitting the material allegations of a petition filed against Lessee in any bankruptcy, reorganization or insolvency proceeding; or
- (f) An order, judgment or decree will be entered by any court of competent jurisdiction, approving a petition or appointing a receiver, trustee, custodian or liquidator of Lessee or of all or a substantial part of the assets of Lessee, in each case without its application, approval or consent, and such order, judgment or decree will continue unstayed and in effect for any period of 30 consecutive days.

Section 36. Remedies on Default. Whenever any Event of Default exists, Lessor will have the right, at its sole option without any further demand or notice, to take one or any combination of the following remedial steps:

- (a) By written notice to Lessee, Lessor may declare all Rental Payments and other amounts payable by Lessee hereunder to the end of the then current Original Term or Renewal Term to be due;
- (b) With or without terminating this Agreement, Lessor may enter the premises where the Equipment is located and retake possession of the Equipment or require Lessee at Lessee's expense to promptly return any or all of the Equipment to the possession of Lessor at a place specified by Lessor, and sell or lease the Equipment or, for the account of Lessee, sublease the Equipment, holding Lessee liable for the difference between (i) the Rental Payments and other amounts payable by Lessee hereunder plus the applicable

Purchase Price, and (ii) the net proceeds of any such sale, lease or sublease (after deducting all expenses of Lessor in exercising its remedies under this Agreement, including without limitation, all expenses of taking possession, storing, reconditioning and selling or leasing the Equipment and all brokerage, auctioneers' and attorneys' fees) provided that the amount of Lessee's liability under this subparagraph (b) shall not exceed the Rental Payments and other amounts otherwise due hereunder plus the remaining Rental Payments and other amounts payable by Lessee to the end of the then current Original Term or Renewal Term;

(c) Lessor may provide written notice of the occurrence of an Event of Default to the escrow agent under any related escrow agreement, and the escrow agent shall thereupon promptly remit to Lessor the entire balance of the escrow fund established thereunder; and

(d) Lessor may take whatever other action at law or in equity may appear necessary or desirable to enforce its rights as the owner of the Equipment.

In addition, Lessee will remain liable for all covenants and indemnities under this Agreement and for all legal fees and other costs and expenses, including court costs, incurred by Lessor with respect to the enforcement of any of the remedies listed above or any other remedy available to Lessor.

Section 37. No Remedy Exclusive. No remedy herein conferred upon or reserved to Lessor is intended to be exclusive and every such remedy will be cumulative and will be in addition to every other remedy given under this Agreement or now or hereafter existing at law or in equity. No delay or omission to exercise any right or power accruing upon any default will impair any such right or power or will be construed to be a waiver thereof, but any such right and power may be exercised from time to time and as often as may be deemed expedient. In order to entitle Lessor to exercise any remedy reserved to it in this Agreement it will not be necessary to give any notice, other than such notice as may be required in this Agreement.

Section 38. Notices. All notices, certificates or other communications hereunder will be sufficiently given and will be deemed given when delivered or mailed by registered mail, postage prepaid, to the parties at the addresses immediately after the signatures to this Agreement (or at such other address as either party hereto will designate in writing to the other for notices to such party), to any assignee at its address as it appears on the register maintained by Lessee.

Section 39. Binding Effect. This Agreement will inure to the benefit of and will be binding upon Lessor and Lessee and their respective successors and assigns.

Section 40. Severability. In the event any provision of this Agreement will be held invalid or unenforceable by any court of competent jurisdiction, such holding will not invalidate or render unenforceable any other provision hereof.

Section 41. Entire Agreement. This Agreement constitutes the entire agreement between Lessor and Lessee.

Section 42. Amendments. This Agreement may be amended, changed or modified in any manner by written agreement of Lessor and Lessee. Any waiver of any provision of this Agreement or any right or remedy hereunder must be affirmatively and expressly made in writing and will not be implied from inaction, course of dealing or otherwise.

Section 43. Execution in Counterparts. This Agreement may be simultaneously executed in several counterparts, each of which will be an original and all of which will constitute but one and the same instrument.

Section 44. Captions. The captions or headings in this Agreement are for convenience only and in no way define, limit or describe the scope or intent of any provisions or sections of this Agreement.

Section 45. Applicable Law. This Agreement will be governed by and construed in accordance with the laws of the State of New Hampshire, and any claim or action based upon this Agreement, any duty to be performed hereunder, or which is in any way referable hereto shall be brought in the New Hampshire

Superior Court for the Southern Judicial District of Hillsborough County or the New Hampshire 9th Circuit Court situated in Nashua and not elsewhere.

Section 46. Electronic Transactions. The parties agree that the transaction described herein may be conducted and related documents may be stored by electronic means. Copies, telecopies, facsimiles, electronic files and other reproductions of original executed documents shall be deemed to be authentic and valid counterparts of such original documents for all purposes, including the filing of any claim, action or suit in the appropriate court of law.

Section 47. Lessee's Notice Filings Related to this Agreement for SEC Rule 15c2-12. In connection with Lessee's compliance with any continuing disclosure undertakings (each, a "Continuing Disclosure Agreement") entered into by Lessee on and after February 27, 2019, pursuant to SEC Rule 15c2-12 promulgated pursuant to the Securities and Exchange Act of 1934, as amended (the "Rule"), Lessor acknowledges that Lessee may be required to file with the Municipal Securities Rulemaking Board's Electronic Municipal Market Access system, or its successor ("EMMA"), notice that Lessee has incurred obligations under this Agreement and notice of certain subsequent events reflecting financial difficulties in connection with this Agreement. Lessee agrees that it shall not file or submit, or permit to be filed or submitted, with EMMA any documentation that includes the following unretracted sensitive or confidential information about Lessor or its affiliates: address and account information of Lessor or its affiliate, e-mail addresses, telephone numbers, fax numbers, names and signatures of officers, employees and signatories of Lessor or its affiliates, or any account information for any related escrow agreement, unless otherwise required for compliance with the Rule or otherwise required by law. Lessee acknowledges that Lessor is not responsible for Lessee's compliance or noncompliance with the Rule or any Continuing Disclosure Agreement.

[Signature page follows.]

IN WITNESS WHEREOF, Lessor and Lessee have caused this Agreement to be executed in their corporate names by their duly authorized officers as of the date first above written.

MUNICIPAL LEASING CONSULTANTS, LLC

By: _____
Name: _____
Title: _____
Address: 7 Old Town Lane, Grand Isle, VT 05458

CITY OF NASHUA, NEW HAMPSHIRE, ON BEHALF OF NASHUA SCHOOL DISTRICT

By: _____
Name: _____
Title: Mayor
Address: 229 Main Street, Nashua, NH 03060

ACCEPTED:
NASHUA SCHOOL DISTRICT

By: _____
Name: Daniel Donovan
Title: Chief Operating Officer
Address: 141 Ledge Street, Nashua, NH 03060

CERTIFICATION

I, the undersigned, do hereby certify (i) that the officer of Lessee who executed the foregoing Agreement on behalf of Lessee and whose genuine signature appears thereon, is the duly qualified and acting officer of Lessee as stated beneath his or her signature and has been authorized to execute the foregoing Agreement on behalf of Lessee, and (ii) that the fiscal year of Lessee is from July 1 to June 30.

DATED: October 20, 2020.

By: _____
Name: _____
Title: City Clerk

EXHIBIT A TO EQUIPMENT LEASE PURCHASE AGREEMENT

EQUIPMENT SCHEDULE

Equipment Description:

The Equipment consists of all equipment acquired and installed in connection with the energy savings improvements described in the Energy Performance Contract dated _____, 2020, between Nashua School District and Energy Efficient Investments, Inc., as described in and at the locations listed therein, together with all replacements, substitutions, repairs, restorations, modifications, attachments, accessions, additions and improvements thereof thereto and all insurance and/or proceeds therefrom. See also “**Schedule 1 – Scope of Work**” attached hereto for a further description of the Equipment. *[Scope of Work from Energy Performance Contract to be attached.]*

Equipment Location:

The Equipment will be located at the following facilities:

Nashua High School
8 Titan Way
Nashua, NH 03063

Nashua South High School
36 Riverside Street
Nashua, NH 03062

Vendor:

Energy Efficient Investments, Inc., 19 D Star Drive, Merrimack, NH 03054

This Equipment Schedule shall be deemed to be supplemented by the descriptions of the Equipment included in the Certificate of Acceptance and Payment Requests submitted to Lessor for approval pursuant to the Escrow Agreement dated as of October 20, 2020, among Lessor, Lessee and TMI Trust Company, as escrow agent, which descriptions shall be deemed to be incorporated herein.

EXHIBIT B TO EQUIPMENT LEASE PURCHASE AGREEMENT

PAYMENT SCHEDULE

Principal Amount: \$6,671,814

Interest Rate: 3.15%

Rental Payments will be made in accordance with **Section 9** and this Payment Schedule.

Rental Payment Date	Total Rental Payment	Interest Portion	Principal Portion	Purchase Price *
10/20/2021	\$454,692.94	\$210,162.14	\$244,530.80	\$6,684,374.53
10/20/2022	454,692.94	202,459.42	252,233.52	6,422,051.67
10/20/2023	454,692.94	194,514.06	260,178.88	6,151,465.63
10/20/2024	454,692.94	186,318.43	268,374.51	5,872,356.14
10/20/2025	454,692.94	177,864.63	276,828.31	5,584,454.70
10/20/2026	454,692.94	169,144.54	285,548.40	5,236,643.17
10/20/2027	454,692.94	160,149.77	294,543.17	4,933,263.70
10/20/2028	454,692.94	150,871.66	303,821.28	4,620,327.78
10/20/2029	454,692.94	141,301.29	313,391.65	4,297,534.38
10/20/2030	454,692.94	131,429.45	323,263.49	3,964,572.99
10/20/2031	454,692.94	121,246.65	333,446.29	3,585,966.77
10/20/2032	454,692.94	110,743.09	343,949.85	3,235,137.93
10/20/2033	454,692.94	99,908.67	354,784.27	2,873,257.97
10/20/2034	454,692.94	88,732.97	365,959.97	2,499,978.80
10/20/2035	454,692.94	77,205.23	377,487.71	2,114,941.34
10/20/2036	454,692.94	65,314.36	389,378.58	1,684,093.32
10/20/2037	454,692.94	53,048.94	401,644.00	1,282,449.32
10/20/2038	454,692.94	40,397.15	414,295.79	868,153.53
10/20/2039	454,692.94	27,346.84	427,346.10	440,807.43
10/20/2040	454,692.94	13,885.51	440,807.43	0.00
Totals	<u>\$9,093,858.80</u>	<u>\$2,422,044.80</u>	<u>\$6,671,814.00</u>	

CITY OF NASHUA, NEW HAMPSHIRE, ON BEHALF
OF NASHUA SCHOOL DISTRICT

By: _____
Name: _____
Title: Mayor

ACCEPTED:
NASHUA SCHOOL DISTRICT

By: _____
Name: Daniel Donovan
Title: Chief Operating Officer

* Lessee's option to purchase is subject to provisions of Section 31 of the Agreement.

ESCROW AGREEMENT

LESSOR:
Municipal Leasing Consultants, LLC
7 Old Town Lane
Grand Isle, VT 05458

ESCROW AGENT:
TMI Trust Company
901 Summit Avenue
Fort Worth, TX 76102
Attention: Barbara James, Vice President

LESSEE:
City of Nashua, New Hampshire, on behalf of
Nashua School District
229 Main Street
Nashua, NH 03060

THIS ESCROW AGREEMENT (this “Escrow Agreement”) dated October 20, 2020 is entered into by and among Municipal Leasing Consultants, LLC (“Lessor”), the City of Nashua, New Hampshire, on behalf of Nashua School District (“Lessee”), and TMI Trust Company (the “Escrow Agent”).

Lessor and Lessee have heretofore entered into that certain Equipment Lease Purchase Agreement dated October 20, 2020 (the “Agreement”). The Agreement contemplates that certain Equipment described therein (the “Equipment”) is to be acquired from the vendor(s) or manufacturer(s) thereof.

After acceptance of the Equipment by Lessee, the Equipment is to be leased by Lessor to Lessee pursuant to the terms of the Agreement.

The Agreement contemplates that Lessor will deliver to the Escrow Agent cash in the amount of \$6,671,814, to be held in escrow by the Escrow Agent and applied on the express terms and conditions set forth herein. Such cash, together with all interest and additions received with respect thereto (hereinafter, the “Escrow Fund”), is to be applied from time to time to pay certain costs of acquiring the Equipment (a portion of which may, if required, be paid prior to final acceptance of the Equipment by Lessee and, if requested by Lessee, to pay certain costs of entering into the Agreement).

The parties desire to set forth the terms on which the escrow is to be created and to establish the rights and responsibilities of the parties hereto.

NOW, THEREFORE, the parties agree as follows:

1. The Escrow Agent hereby agrees to serve as escrow agent upon the terms and conditions set forth herein. The Escrow Agent agrees that the Escrow Fund shall be held irrevocably in trust for the account and benefit of Lessee and Lessor and all interest earned with respect to the Escrow Fund shall accrue to the benefit of Lessee and shall be applied as expressly set forth herein.

To the limited extent required to perfect the security interest granted by Lessee to Lessor in the cash and negotiable instruments from time to time comprising the Escrow Fund, Lessor hereby appoints the Escrow Agent as its security agent, and the Escrow Agent hereby accepts the appointment as security agent, and agrees to hold physical possession of such cash and negotiable instruments on behalf of Lessor.

2. On such day as determined to the mutual satisfaction of the parties (the “Commencement Date”), Lessor shall deliver to the Escrow Agent cash in the amount of \$6,671,814 to be held by the Escrow Agent on the express terms and conditions set forth herein. The Escrow Agent agrees to accept the funds delivered to the Escrow Fund by Lessor, and further agrees to hold the amount so delivered together with all interest and other additions received with respect thereto in escrow on the express terms and conditions set forth herein.

3. The Escrow Agent shall at all times segregate the Escrow Fund into a fund maintained for that express purpose, which shall be clearly identified on the books and records of the Escrow Agent as

being held in its capacity as Escrow Agent. Securities and other negotiable instruments comprising the Escrow Fund from time to time shall be held or registered in the name of the Escrow Agent (or its nominee). The Escrow Fund shall not, to the extent permitted by applicable law, be subject to levy or attachment or lien by or for the benefit of any creditor of any of the parties hereto (except with respect to the security interest therein held by Lessor).

4. Lessee hereby directs the Escrow Agent to invest the cash comprising the Escrow Fund from time to time in Qualified Investments (as hereinafter defined). Interest or other amounts earned and received by the Escrow Agent with respect to the Escrow Fund shall be held in and comprise a part of the Escrow Fund. No investment shall be made that would cause the Agreement to be deemed to be an arbitrage bond within the meaning of Section 148(a) of the Internal Revenue Code of 1986, as amended. For the purpose of this paragraph 4, the term "Qualified Investments" means deposits that comply with the requirements of New Hampshire RSA 197:23-a, to the extent the same are at the time legal for investment of the funds being invested.

5. Lessor and Lessee hereby authorize the Escrow Agent to take the following actions with respect to the Escrow Fund:

a. From time to time, the Escrow Agent shall pay the vendor or manufacturer of the Equipment or Lessee or other payee upon receipt of the following: (a) a Certificate of Acceptance and Payment Request in the form attached as **Exhibit A** to this Escrow Agreement (a "Payment Request") duly executed by a Lessee Representative and approved for payment by a Lessor Representative (or its assignee, if any), (b) the vendor(s) or manufacturer(s) invoice(s) specifying the acquisition price of the Equipment described in the Payment Request, (c) in the event that certain costs of entering into this Agreement are described in the Payment Request, invoice(s) or other evidence specifying the amount(s) of such costs, and (d) any additional documentation required by Lessor. Without limiting the foregoing, Lessor shall not approve any such payment unless and until Lessee shall have provided to Lessor (i) certificates of insurance evidencing coverage in accordance with Section 22 of the Agreement and satisfactory to Lessor, and (ii) payment and performance bonds, each naming Lessor and its successors and assigns as an additional obligee and issued by a surety company rated "A" or better by AM Best in form and substance satisfactory to Lessor. A "Lessee Representative" shall be a person designated in the Incumbency Certificate attached hereto as **Exhibit B-1**, or on a subsequent Incumbency Certificate of Lessee actually received and acknowledged by Lessor and the Escrow Agent. A "Lessor Representative" shall be a person designated in the Certificate of Lessor Representatives attached hereto as **Exhibit B-2**.

b. Upon receipt of a Payment Request for payment of funds from the Escrow Fund, Lessor and the Escrow Agent are authorized to seek confirmation of such instructions by telephone call-back to any Lessee Representative designated on **Exhibit B-1** hereto, and Lessor and the Escrow Agent may rely upon the confirmations of anyone purporting to be such Lessee Representative. The Escrow Agent shall confirm any Payment Request by telephone call-back to the person or persons designated for verifying such draw requests on **Exhibit B-2** (such person verifying the request shall be different than the person initiating the request). Lessor and Lessee hereby confirm that any call-back performed by the Escrow Agent to verify a disbursement instruction pursuant to a Payment Request submitted pursuant to this Section before release shall be made to Lessor only and the Escrow Agent shall have no obligation to call-back Lessee.

c. The persons and telephone numbers for call-backs may be changed only in writing actually received and acknowledged by Lessor and the Escrow Agent. The parties to this Escrow Agreement acknowledge that such security procedure is commercially reasonable.

d. It is understood that Lessor, the Escrow Agent and the beneficiary's bank in any funds transfer may rely solely upon any account numbers or similar identifying number provided by any party hereto to identify (i) the beneficiary, (ii) the beneficiary's bank, or (iii) an intermediary bank.

e. In the event that Lessor provides to the Escrow Agent written notice of the occurrence of an Event of Default or a nonappropriation by Lessee under the Agreement, the Escrow Agent shall thereupon promptly remit to Lessor the entire balance of the Escrow Fund.

f. Upon receipt by the Escrow Agent of a duly executed Certificate of Acceptance and Payment Request identified as the final such request, the remaining monies in the Escrow Fund shall, *first* be applied to all reasonable fees and expenses incurred by the Escrow Agent, if applicable, in connection herewith as evidenced by its statement forwarded to Lessor and Lessee; and, *second* be paid to Lessor, for application against the outstanding principal components of Rental Payments (as defined in the Agreement), including prepayment of Rental Payments under the Agreement, as provided therein, unless Lessor directs that payment of such amount be made in such other manner directed by Lessor that, in the opinion of nationally recognized counsel in the area of tax-exempt municipal obligations satisfactory to Lessor, will not adversely affect the exclusion of the interest components of Rental Payments from gross income for federal income tax purposes. If any such amount is used to prepay principal, the Payment Schedule attached to the Agreement will be revised accordingly as specified by Lessor.

6. The reasonable fees and expenses of the Escrow Agent incurred in connection herewith shall be the responsibility of Lessor and are herein defined as the sum of \$1,500, for escrow services as described herein; plus any extraordinary expenses incurred by the Escrow Agent at the request of Lessor or Lessee.

7. The Escrow Agent shall have no liability for acting upon any written instruction presented by Lessee and Lessor in connection with this Escrow Agreement which the Escrow Agent in good faith believes to be genuine. Furthermore, the Escrow Agent shall not be liable for any act or omission in connection with this Escrow Agreement except for its own gross negligence, willful misconduct or bad faith. The Escrow Agent shall not be liable for any loss or diminution in value of the Escrow Fund as a result of the investment decisions made pursuant to Section 4 in Qualified Investments at the direction of Lessee.

8. To the extent authorized by law, Lessee hereby agrees to indemnify and save the Escrow Agent harmless against any liabilities which it may incur in the exercise and performance of its powers and duties hereunder and which are not due to the Escrow Agent's gross negligence or willful misconduct. No indemnification will be made under this Section or elsewhere in this Escrow Agreement for damages arising solely out of gross negligence, willful misconduct or bad faith by the Escrow Agent, its officers, agents, employees, successors or assigns.

9. The Escrow Agent may at any time resign by giving at least 30 days' prior written notice to Lessee and Lessor, but such resignation shall not take effect until the appointment of the successor Escrow Agent. The substitution of another bank or trust company to act as Escrow Agent under this Escrow Agreement may occur by written agreement of Lessor and Lessee. In addition, the Escrow Agent may be removed at any time, with or without cause, by instrument in writing executed by Lessor and Lessee. Such notice shall set forth the effective date of the removal. In the event of any resignation or removal of the Escrow Agent, a successor Escrow Agent shall be appointed by an instrument in writing executed by Lessor and Lessee. Such successor Escrow Agent shall indicate its acceptance of such appointment by an instrument in writing delivered to Lessor, Lessee and the predecessor Escrow Agent.

Upon the effective date of resignation or removal, the Escrow Agent will transfer the Escrow Fund then held by it to the successor Escrow Agent selected by Lessor and Lessee.

10. This Escrow Agreement and the Escrow Fund established hereunder shall terminate upon receipt by the Escrow Agent of the written notice from Lessor specified in Section 5(b) or Section 5(c) hereof.

11. All notices hereunder shall be in writing, sent by certified mail, return receipt requested, or by mutually recognized overnight carrier addressed to the other party at its respective address shown on page 1 of this Escrow Agreement or to such other address as such party shall from time to time designate in writing to the other parties hereto; and shall be effective on the date of receipt.

12. This Escrow Agreement shall inure to the benefit of and shall be binding upon the parties hereto and their respective successors and assigns. No rights or obligations of the Escrow Agent under this Escrow Agreement may be assigned without the prior written consent of Lessor and Lessee.

13. This Escrow Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof, and no waiver, consent, modification or change of terms hereof shall bind any party unless in writing signed by all parties.

14. The Escrow Agent may employ agents, attorneys and accountants in connection with its duties hereunder and shall not be liable for any action taken or omitted in good faith in accordance with the advice of counsel, accountants or other skilled persons.

15. This Escrow Agreement shall be governed by and be construed and interpreted in accordance with the internal laws of the State of New Hampshire.

16. This Escrow Agreement may be executed in several counterparts, and each counterpart so executed will be an original. In addition, the parties agree that the transaction described herein may be conducted and related documents may be received, sent or stored by electronic means. Copies, telecopies, facsimiles, electronic files and other reproductions of original executed documents shall be deemed to be authentic and valid counterparts of such original documents for all purposes, including the filing of any claim, action or suit in the appropriate court of law.

17. The parties acknowledge that in order to help the United States government fight the funding of terrorism and money laundering activities, pursuant to Federal regulations that became effective on October 1, 2003 (Section 326 of the USA PATRIOT Act) all financial institutions are required to obtain, verify, record and update information that identifies each person establishing a relationship or opening an account. The parties to this Escrow Agreement agree that they will provide to the Escrow Agent such information as it may request, from time to time, in order for the Escrow Agent to satisfy the requirements of the USA PATRIOT Act, including but not limited to the name, address, tax identification number and other information that will allow it to identify the individual or entity who is establishing the relationship or opening the account and may also ask for formation documents such as articles of incorporation or other identifying documents to be provided.

[Signature page follows.]

IN WITNESS WHEREOF, the parties hereto have caused this Escrow Agreement to be duly executed as of the day and year first above set forth.

LESSOR: MUNICIPAL LEASING CONSULTANTS, LLC

By: _____
Name: _____
Title: _____

LESSEE: CITY OF NASHUA, NEW HAMPSHIRE, ON BEHALF OF NASHUA SCHOOL DISTRICT

By: _____
Name: _____
Title: Mayor

ACCEPTED:
NASHUA SCHOOL DISTRICT

By: _____
Name: Daniel Donovan
Title: Chief Operating Officer

ESCROW AGENT: TMI TRUST COMPANY

By: _____
Name: Barbara James
Title: Vice President

EXHIBIT A TO ESCROW AGREEMENT

CERTIFICATE OF ACCEPTANCE AND PAYMENT REQUEST

TMI Trust Company (the "Escrow Agent"), as escrow agent under that certain Escrow Agreement dated October 20, 2020 (the "Escrow Agreement"), by and among the City of Nashua, New Hampshire, on behalf of Nashua School District ("Lessee"), Municipal Leasing Consultants, LLC ("Lessor") and the Escrow Agent, is hereby requested to pay from the Escrow Fund established and maintained thereunder, the amount set forth below to the named payee(s). The amount shown is due and payable under a purchase order or contract (or has been paid by and not previously reimbursed to Lessee). The equipment and costs described below are (i) part or all of the Equipment listed in the Equipment Schedule to that certain Equipment Lease Purchase Agreement dated October 20, 2020 (the "Agreement"), between Lessor and Lessee, or (ii) costs incurred in entering into the Agreement:

DESCRIPTION OF COST PAID OR FINANCING COST	AMOUNT	PAYEE
--	--------	-------

Lessee hereby certifies and represents to and agrees with Lessor as follows with respect to the Equipment described above: (i) the amount to be disbursed is not being paid in advance of the time, if any, fixed for any payment, and does not include any retained percentage entitled to be retained by Lessee at this time; (ii) no amount requested to be disbursed was included in any payment request previously filed with the Escrow Agent for which payment was actually made by the Escrow Agent; (iii) Lessee has made such investigation of such sources of information as are deemed necessary and is of the opinion that the applicable portion of the Equipment and related work has been fully paid for, and no claim or claims exist against the Lessee or any Vendor out of which a lien based on furnishing labor or material exists or might arise; (iv) acquisition and installation of the applicable portion of the Equipment for which payment is being requested has been completed in accordance with plans and specifications approved by the Lessee and in accordance with the terms and conditions of the Energy Performance Contract dated _____, 2020, between Lessee and Energy Efficient Investments, Inc. (the "Contract"), and said applicable portion of the Equipment is suitable and sufficient for the expected uses thereof, however, this statement is made without prejudice to any rights against third parties which exist at the date hereof or which may subsequently come into being; (v) the amount remaining in the Escrow Fund will, after payment of the amount requested, be sufficient to pay the remaining costs of the Equipment; (vi) a present need exists for such Equipment which need is not temporary or expected to diminish in the near future; (vii) such Equipment is essential to and will be used by Lessee only for the purpose of performing one or more governmental functions of Lessee consistent with the permissible scope of Lessee's authority; (viii) the estimated useful life of such Equipment based upon the manufacturer's representations and Lessee's projected needs is not less than the term of lease with respect to such Equipment; (ix) Lessee has conducted such inspection and/or testing of such Equipment as it deems necessary and appropriate and hereby acknowledges that it accepts such Equipment for all purposes as of the date of this Certificate; (x) such Equipment is covered by insurance in the types and amounts required by the Agreement; (xi) no Event of Default or nonappropriation, as such terms are defined in the Agreement, and no event which with the giving of notice or lapse of time or both, would become an Event of Default or nonappropriation, has occurred and is continuing on the date hereof; and (xii) sufficient funds have been appropriated by Lessee for the payment of all rental payments due under the Agreement during Lessee's current fiscal year.

Based on the foregoing, Lessor is hereby authorized and directed to fund the acquisition of the Equipment set forth in the Agreement by paying, or causing to be paid, the manufacturer(s)/vendor(s), Lessee or other payee(s) the amounts set forth on the attached invoices from the Escrow Fund held under the Escrow Agreement in accordance with its terms.

The following documents are attached hereto and made a part hereof: (a) invoice(s) for costs being paid; (b) current IRS Form W-9 for the payee (unless such IRS Form W-9 has been previously submitted to the Escrow Agent); and (c) lien waivers, if applicable.

IF REQUEST IS FOR REIMBURSEMENT, CHECK HERE . Lessee paid an invoice prior to the commencement date identified in the Equipment Schedule and is requesting reimbursement for such payment. A copy of evidence of such payment together with a copy of Lessee's Declaration of Official Intent and other evidence required by Lessor prior to Lessor's approval hereof that Lessee has satisfied the requirements for reimbursement set forth in Treas. Reg. 1.150-2 is hereby attached. Lessor's approval hereof shall evidence that Lessee has delivered to Lessor such required documentation.

IF REQUEST IS FINAL REQUEST, CHECK HERE . Lessee hereby certifies that (a) all of the Equipment described in the Agreement has been received in good condition and has been installed in accordance with the Contract; (b) such Equipment is accepted "**AS-IS, WHERE-IS**"; (c) Lessee has inspected the Equipment, and determined that it is in good working order and complies with all purchase orders, contracts and specifications; (d) Lessee has fully and satisfactorily performed all covenants and conditions to be performed by it as of this date under the Agreement with regard to such Equipment; (e) Lessee waives any right to revoke its acceptance; and (f) the Equipment is fully insured in accordance with Section 22 of the Agreement. This certificate is made without prejudice to any rights against third parties which may exist as of the date hereof or which may subsequently come into being.

Date: _____, 20__.

Approved for Payment:

CAPITAL ONE PUBLIC FUNDING, LLC
(assignee of MUNICIPAL LEASING
CONSULTANTS, LLC), as Lessor

CITY OF NASHUA, NEW HAMPSHIRE, ON
BEHALF OF NASHUA SCHOOL DISTRICT,
as Lessee

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

**EXHIBIT B-1 TO ESCROW AGREEMENT
INCUMBENCY CERTIFICATE REGARDING LESSEE REPRESENTATIVES**

**\$6,671,814
EQUIPMENT LEASE PURCHASE AGREEMENT
DATED AS OF OCTOBER 20, 2020, BETWEEN
MUNICIPAL LEASING CONSULTANTS, LLC, AS LESSOR, AND THE
CITY OF NASHUA, NEW HAMPSHIRE,
ON BEHALF OF NASHUA SCHOOL DISTRICT, AS LESSEE**

The undersigned officer of the City of Nashua, New Hampshire, on behalf of Nashua School District ("Lessee") hereby certifies that the persons listed below are each designated as an authorized representative of Lessee for the Escrow Agreement dated October 20, 2020 (the "Escrow Agreement"), among Lessee, Municipal Leasing Consultants, LLC and TMI Trust Company, as escrow agent (the "Escrow Agent"), including but not limited to initiating and approving transactions under the Escrow Agreement and confirming such approvals through call-backs from Lessor and the Escrow Agent relating thereto, all on behalf of Lessee. Each such person is the current holder of the office or title indicated, and the signature set forth opposite the name of each such authorized representative is the true and correct specimen of such person's signature:

Name/Title/Telephone/Email

Specimen Signature

Name

Signature

Title

Telephone#

Email Address

Name/Title/Telephone/Email

Specimen Signature

Name

Signature

Title

Telephone#

Email Address

Dated: October 20, 2020.

CITY OF NASHUA, NEW HAMPSHIRE, ON BEHALF OF
NASHUA SCHOOL DISTRICT

By: _____

Name: _____

Title: _____

(To be signed by someone other than signatories listed above.)

EXHIBIT B-2

**AUTHORIZED LESSOR REPRESENTATIVES
FOR ESCROW AGREEMENT**

Name/Title/Telephone/Email

Jonathan A. Lewis
Name
President
Title
631-531-2824
Telephone #
Jonathan.lewis@capitalone.com
Email Address

Specimen Signature


Signature

- Initiate
 Verify transactions initiated by others

Name/Title/Telephone/Email

Drew Scrivener
Name
Senior Vice President
Title
631-776-3844
Telephone #
Drew.scrivener@capitalone.com
Email Address

Specimen Signature

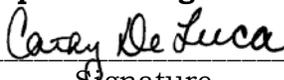

Signature

- Initiate
 Verify transactions initiated by others

Name/Title/Telephone/Email

Catherine DeLuca
Name
Vice President
Title
631-531-2802
Telephone #
Catherine.deluca@capitalone.com
Email Address

Specimen Signature

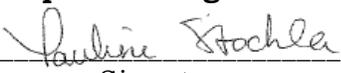

Signature

- Initiate
 Verify transactions initiated by others

Name/Title/Telephone/Email

Pauline Stochla
Name
Senior Associate
Title
631-776-3848
Telephone #
Pauline.stochla@capitalone.com
Email Address

Specimen Signature


Signature

- Initiate
 Verify transactions initiated by others

The Escrow Agent is authorized to comply with and rely upon any notices, instructions or other communications believed by it to have been sent or given by the person or persons identified above, including without limitation, to initiate and verify funds transfers as indicated.

CAPITAL ONE PUBLIC FUNDING, LLC

By: 
Name: Maryann Santos
Title: Senior Vice President

FEDERAL TAX AGREEMENT

THIS FEDERAL TAX AGREEMENT (the “Tax Agreement”), is executed as of October 20, 2020, by the City of Nashua, New Hampshire (the “Issuer”) and Nashua School District (the “District”), for the benefit of Capital One Public Funding, LLC and its successors and assigns (the “Lender”), and any firm of attorneys rendering an opinion on the exclusion from gross income for federal income tax purposes of the interest portion of rental payments payable under the Lease Agreement (defined below).

RECITALS

1. This Tax Agreement is being executed and delivered in connection with that certain Equipment Lease Purchase Agreement dated as of October 20, 2020 (the “Lease Agreement”), entered into by and between the City of Nashua, New Hampshire, on behalf of Nashua School District, as lessee, and Municipal Leasing Consultants, LLC, as lessor (the “Lessor”).

2. The Internal Revenue Code of 1986, as amended, and the applicable Regulations (as defined herein), impose certain limitations on the uses and investment of the Lease Proceeds (as defined herein) and of certain other money relating to the Lease Agreement, and set forth the conditions under which the interest portion of rental payments payable under the Lease Agreement will be excluded from gross income for federal income tax purposes.

3. The Issuer and the District are executing this Tax Agreement in order to set forth certain facts, covenants, representations, and expectations relating to the use of the Lease Proceeds and the property financed or refinanced with those proceeds and the investment of the Lease Proceeds and of certain other related money, in order to establish and maintain the exclusion of the interest portion of rental payments payable under the Lease Agreement from gross income for federal income tax purposes, and to provide guidance for complying with the arbitrage rebate provisions of Code § 148(f).

4. This Tax Agreement is being entered into for the purpose of setting forth general procedures for the Issuer and the District to continuously monitor and comply with the federal income tax requirements set forth in the Code and the Regulations.

NOW, THEREFORE, in consideration of the foregoing and the mutual representations, covenants and agreements set forth in this Tax Agreement, the Issuer and the District represent, covenant and agree as follows:

Section 1. Definitions of Words and Terms. Except as otherwise provided in this Tax Agreement or unless the context otherwise requires, capitalized words and terms used in this Tax Agreement have the same meanings as set forth in the Lease Agreement, and certain other words and phrases have the meanings assigned in Code §§ 103, 141-150 and the Regulations. The following words and terms used in this Tax Agreement have the following meanings:

“**Annual Compliance Checklist**” means a checklist for the Project designed to measure compliance with the requirements of this Tax Agreement after the Closing Date substantially in the form attached as **Exhibit D**.

“**Benefitted Facilities**” or “**Benefitted Facility**” means, as the context requires, all or any of the District’s buildings and facilities benefitted from the energy conservation improvements, comprising the Financed Assets as further described on **Exhibit C** to this Tax Agreement. The Benefitted Facilities are expected to include the buildings and facilities set forth on **Exhibit C** to this Tax Agreement.

“Closing Date” means October 20, 2020.

“Code” means the Internal Revenue Code of 1986, as amended.

“Compliance Officer” means the _____ or its designee.

“Financed Assets” and **“Financed Asset”** means, as the context requires, all or any portion of the Project financed with proceeds of the Lease Agreement, as described on **Exhibit C** hereto.

“Investment” means any security, obligation, annuity contract or other investment-type property that is purchased directly with, or otherwise allocated to, Lease Proceeds. This term does not include a tax-exempt bond, except for “specified private activity bonds” as defined in Code § 57(a)(5)(C), but it does include the investment element of most interest rate caps.

“IRS” means the Internal Revenue Service.

“Lease Agreement” means the Equipment Lease Purchase Agreement dated as of October 20, 2020, between the City of Nashua, New Hampshire, on behalf of Nashua School District, as lessee, and the Lessor, as lessor, as amended from time to time.

“Lease Proceeds” means the gross proceeds of the Lease Agreement, which include (a) sale proceeds (any amounts actually or constructively received by the Issuer or the District from the execution and delivery of the Lease Agreement, including amounts used to pay a discount or fees to the Lessor, but excluding pre-issuance accrued interest), (b) any amounts received from investing sale proceeds or transferred proceeds or other investment proceeds, (c) any amounts held in a sinking fund for the Lease Agreement, (d) any amounts held in a pledged fund or reserve fund for the Lease Agreement, (e) any other replacement proceeds, and (f) any transferred proceeds.

“Management Agreement” means a legal agreement defined in Regulations § 1.141-3(b) as a management, service, or incentive payment contract with an entity that provides services involving all or a portion of any function of a Financed Asset or a Benefitted Facility, such as a contract to manage all or any portion of the Financed Assets or the Benefitted Facilities. However, contracts for services that are solely incidental to the primary governmental function of a Financed Asset or a Benefitted Facility (for example, contracts for janitorial, office equipment repair, billing or similar services); however, are not treated as Management Agreements.

“Measurement Period” means, with respect to the Financed Assets, the period beginning on the later of (i) the Closing Date or (ii) the date the property is placed in service and ending on the earlier of (A) the final maturity date of the Lease Agreement or (B) the expected economic useful life of the property.

“Non-Qualified Use” generally means any use of a Financed Asset or a Benefitted Facility in a trade or business carried on by any Non-Qualified User that is different in form or substance to the use made of a Financed Asset or a Benefitted Facility by any other member of the general public. Generally, ownership, a lease agreement or any other use that provides a Non-Qualified User a special legal right or entitlement to use a Financed Asset or a Benefitted Facility will constitute Non-Qualified Use.

“Non-Qualified User” means any person or entity other than the Issuer or the District.

“Opinion of Special Tax Counsel” means the written opinion of Special Tax Counsel addressed to the Lender to the effect that the proposed action or the failure to act will not adversely affect the exclusion of the interest portion of rental payments under the Lease Agreement from gross income for federal income tax purposes or an opinion describing additions, modifications or additional procedures required to preserve the interest portion of rental payments under the Lease Agreement from gross income for federal income tax purposes.

“Post-Issuance Tax Requirements” means those requirements related to the use of Lease Proceeds, the use of the Financed Assets and Benefitted Facilities, and the investment of Lease Proceeds after the Closing Date.

“Project” means all of the property acquired, installed, constructed, and equipped by the District using Lease Proceeds [**and other money contributed by the Issuer or the District**].

“Qualified Use Agreement” means any of the following:

(1) A lease or other short-term use by members of the general public who use the Project on a short-term basis in the ordinary course of the Issuer’s or the District’s governmental purposes.

(2) Agreements with Qualified Users or Non-Qualified Users to use all or a portion of the Project for a period up to 200 days in length pursuant to an arrangement whereby (a) the use of the Project under the same or similar arrangements is predominantly by natural persons who are not engaged in a trade or business and (b) the compensation for the use is determined based on generally applicable, fair market value rates that are in effect at the time the agreement is entered into or renewed. Any Qualified User or Non-Qualified User using all or any portion of the Project under this type of arrangement may have a right of first refusal to renew the agreement at rates generally in effect at the time of the renewal.

(3) Agreements with Qualified Users or Non-Qualified Users to use all or a portion of the Project for a period up to 100 days in length pursuant to arrangements whereby (a) the use of the property by the person would be general public use but for the fact that generally applicable and uniformly applied rates are not reasonably available to natural persons not engaged in a trade or business, (b) the compensation for the use under the arrangement is determined based on applicable, fair market value rates that are in effect at the time the agreement is entered into or renewed, and (c) the Project was not constructed for a principal purpose of providing the property for use by that Qualified User or Non-Qualified User. Any Qualified User or Non-Qualified User using all or any portion of the Project under this type of arrangement may have a right of first refusal to renew the agreement at rates generally in effect at the time of the renewal.

(4) Agreements with Qualified Users or Non-Qualified Users to use all or a portion of the Project for a period up to 50 days in length pursuant to a negotiated arm’s-length arrangement at fair market value so long as the Project was not constructed for a principal purpose of providing the property for use by that person.

“Regulations” means United States Treasury Regulations governing obligations the interest on which is excluded from gross income for federal income tax purposes under Code §§ 103 and 141-150.

“Special Tax Counsel” means Gilmore & Bell, P.C., Kansas City, Missouri, or other nationally recognized firm of bond counsel acceptable to the Lender.

“**State**” means the State of New Hampshire.

“**Tax Compliance File**” means documents and records for the Lease Agreement maintained by the Compliance Officer pursuant to this Tax Agreement.

“**Yield**” means the yield on the Lease Agreement, computed under Regulations § 1.148-4, and yield on an Investment, computed under Regulations § 1.148-5.

Section 2. Purpose of the Lease Agreement; Reimbursement; Use of Lease Proceeds.

(a) *Purpose.* The Lease Agreement is being executed and delivered for the purpose of paying (i) costs of the Project, and (ii) if requested by the Issuer and approved by the Lender, certain costs of issuance in connection with the execution and delivery of the Lease Agreement.

(b) *Reimbursement.* Reimbursement from proceeds of the Lease Agreement of expenditures paid prior to the Closing Date will satisfy the requirements of Regulations § 1.150-2. The list of expenditures to be reimbursed, if any, are set forth on **Exhibit C**.

(c) *Use of Lease Proceeds.* On the Closing Date, all proceeds of the Lease Agreement in the amount of \$6,671,814 are expected to be deposited in the Escrow Fund and used to pay (i) costs of the Financed Assets, and (ii) if required by the Issuer and approved by the Lender, certain costs of issuance in connection with the Lease Agreement.

Section 3. Project Completion. The District has incurred, or will incur within 6 months after the Closing Date, a substantial binding obligation to a third party to spend at least 5% of the Lease Proceeds on the Financed Assets. The completion of the Financed Assets and the allocation of the Lease Proceeds to expenditures will proceed with due diligence. At least 85% of the proceeds of the Lease Agreement will be allocated to expenditures on the Financed Assets within 3 years after the Closing Date.

Section 4. Funds or Accounts. The Escrow Fund has been established under the Escrow Agreement with the Escrow Agent. Amounts held in the Escrow Fund will be used to pay a portion of the costs of the Project. No other funds or accounts have been established for the Lease Agreement to hold Lease Proceeds or other money that will be used to make rental payments under the Lease Agreement.

Section 5. Rebate and Yield Restriction.

(a) *Lender Certification – Issue Price.* The Lender has represented in the Certificate of Lender, dated as of the Closing Date and attached hereto as **Exhibit E**, that it has acquired the Lease Agreement from Lessor, pursuant to Regulations § 1.148-1(f)(2)(i) (relating to the so-called “private placement rule”, for the amount of \$_____ (the “**Issue Price**”), and intends to hold the Lease Agreement for its own account with no current intent to sell, assign or transfer the Lease Agreement.

(b) *Lease Agreement Yield.* Based on the Issue Price, Special Tax Counsel has determined that the Yield on the Lease Agreement is ____%. The amortization schedule and calculation of the Yield on the Lease Agreement is attached to this Tax Agreement as **Exhibit A**. Neither the Issuer nor the District has entered into an interest rate swap agreement with respect to any portion of Lease Proceeds.

(c) *Lease Agreement Subject to the Rebate Requirement.* The Lease Agreement is subject to the arbitrage rebate requirements of Code § 148(f). Pursuant to the Escrow

Agreement, investment of the Lease Agreement Proceeds is limited to placement in an interest-bearing demand deposit account. If the Yield on investments of the Escrow Fund exceeds ____%, or if the Issuer or the District establishes any sinking or reserve fund for the Lease Agreement, then the Issuer will contact Special Tax Counsel to seek advice regarding the need to calculate and pay arbitrage rebate.

Section 6. Use of Financed Assets and Benefitted Facilities.

(a) *General.* The Project will be owned by the District throughout the Measurement Period. Except as otherwise described in this **Section 6**, no portion of the buildings and facilities comprising the Project is expected to be used in a Non-Qualified Use during the Measurement Period. Unless the Issuer and the District obtains an Opinion of Special Tax Counsel, neither the Issuer nor the District will use, or permit the use of, the buildings and facilities comprising the Project in any other Non-Qualified Use.

(b) *Agreements.* As of the Closing Date, neither the District nor the Issuer has any agreements with Non-Qualified Users that relate to the management or operation of any portion of the buildings and facilities comprising the Project. During the Measurement Period, neither the Issuer nor the District will enter into or renew any agreement with any Non-Qualified User with respect to the management or operation of any portion of the buildings and facilities comprising the Project without first obtaining an Opinion of Special Tax Counsel.

(c) *Leases.* Except as otherwise described in this subsection (c), as of the Closing Date, neither the Issuer nor the District has any leases with Non-Qualified Users with respect to the buildings and facilities comprising the Project. During the Measurement Period, neither the Issuer nor the District will enter into or renew any other leases with any Non-Qualified Users, other than Qualified Use Agreements, with respect to the buildings and facilities comprising the Project without first obtaining an Opinion of Special Tax Counsel.

(d) *Written Policies and Procedures.* The Issuer and the District intend for this Tax Agreement to be its primary written policies and procedures for monitoring compliance with the Post-Issuance Tax Requirements for the Lease Agreement and to supplement any other formal policies and procedures related to the Post-Issuance Tax Requirements that have been established.

(e) *Compliance Officer.* The Issuer or the District, when necessary to fulfill the Post-Issuance Tax Requirements, will, through the Compliance Officer, sign Form 8038-T in connection with the payment of arbitrage rebate or Yield reduction payments, participate in any federal income tax audit of the Lease Agreement or related proceedings under a voluntary compliance agreement procedures (VCAP) or undertake a remedial action procedure pursuant to Regulations § 1.141-12.

(f) *Annual Compliance Checklist.* Attached as **Exhibit D** is a form of Annual Compliance Checklist for the Lease Agreement. The Compliance Officer will prepare and complete an Annual Compliance Checklist for the Financed Assets and Benefitted Facilities at least annually. In the event the Annual Compliance Checklist identifies a deficiency in compliance with the requirements of this Tax Agreement, the Compliance Officer will obtain an Opinion of Special Tax Counsel and take actions to correct any deficiency.

Section 7. Recordkeeping. The Compliance Officer will maintain the Tax Compliance File for the Lease Agreement in accordance with this Tax Agreement. Unless otherwise specifically instructed in a written Opinion of Special Tax Counsel or to the extent otherwise provided in this Tax Agreement, the Compliance Officer shall retain records related to the Post-Issuance Tax Requirements until 3 years following the final maturity of (i) the Lease Agreement or (ii) any obligation issued to refund the Lease Agreement. Any records maintained

electronically must comply with Section 4.01 of Revenue Procedure 97-22, which generally provides that an electronic storage system must (1) ensure an accurate and complete transfer of the hardcopy records which indexes, stores, preserves, retrieves and reproduces the electronic records, (2) include reasonable controls to ensure integrity, accuracy and reliability of the electronic storage system and to prevent unauthorized alteration or deterioration of electronic records, (3) exhibit a high degree of legibility and readability both electronically and in hardcopy, (4) provide support for other books and records of the District, and (5) not be subject to any agreement that would limit the ability of the IRS to access and use the electronic storage system on the District's premises.

Section 8. Miscellaneous

(a) *Form 8038-G.* A copy of the completed and fully executed IRS Form 8038-G (Information Return for Tax-Exempt Governmental Obligations) is attached to this Tax Agreement as **Exhibit B**. The Form 8038-G was prepared by Special Tax Counsel based on representations and covenants by the Issuer and the District contained in this Tax Agreement or otherwise made by the Issuer and the District. The information contained on Form 8038-G is true, complete and correct to the knowledge of the undersigned, and the undersigned is authorized to sign the Form 8038-G on behalf of the Issuer and deliver it to Special Tax Counsel for filing with the IRS.

(b) *Single Issue.* No other debt obligations of the Issuer: (1) are being sold within 15 days of the execution and delivery of the Lease Agreement, (2) are being sold under the same plan of financing as the Lease Agreement, and (3) are expected to be paid from substantially the same source of funds as the Lease Agreement (disregarding guarantees from unrelated parties, such as bond insurance).

(c) *Bank Qualification.* The Issuer has not designated the Lease Agreement as a "qualified tax-exempt obligation" under Code § 265(b)(3).

(d) *No Federal Guaranty.* The payment of rental payments under the Lease Agreement are not, and neither the Issuer nor the District will permit the payment of rental payments under the Lease Agreement to be, directly or indirectly guaranteed by the United States of America or any agency thereof.

(e) *Hedge Bonds.* The Issuer and the District reasonably expect that at least 85% of the net sale proceeds (the sale proceeds of the Lease Agreement less any sale proceeds invested in a reserve fund) of the Lease Agreement will be used to carry out the governmental purpose of the Lease Agreement within 3 years after the Closing Date, and not more than 50% of the proceeds of the Lease Agreement will be invested in Investments having a substantially guaranteed Yield for 4 years or more.

(f) *Registration Requirement; Record Owner.* The Issuer will maintain or cause to be maintained a record of the owner(s) of the Lease Agreement and the person/entity entitled to the receipt of the interest portions of rental payments under the Lease Agreement. Transfer of ownership of the Lease Agreement is effective only if entered in these records. The Agreement will be held in registered form within the meaning of Code § 149(a).

(g) *Reliance.* The Issuer and the District understand that their certifications will be relied upon by the law firm of Gilmore & Bell, P.C., in rendering its opinion as to the validity of the Lease Agreement and the exclusion from federal gross income of the interest portion of payments payable by the Issuer under the Lease Agreement.

(h) *Enforceability.* If any provision in this Tax Agreement or in the Lease Agreement is determined to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions will not be affected or impaired.

(i) *Electronic Transactions.* The transaction described in this Tax Agreement may be conducted, and related documents may be sent, received and stored, by electronic means.

[Signature page follows.]

IN WITNESS WHEREOF, the undersigned, by execution of this Tax Agreement, hereby makes the foregoing certifications, representations, and agreements contained in this Tax Agreement on behalf of the Issuer and the District.

CITY OF NASHUA, NEW HAMPSHIRE

By: _____
Name: _____
Title: Mayor

NASHUA SCHOOL DISTRICT

By: _____
Name: Daniel Donovan
Title: Chief Operating Officer

EXHIBIT A

**AMORTIZATION SCHEDULE AND CALCULATION OF
WEIGHTED AVERAGE MATURITY AND YIELD ON THE LEASE AGREEMENT**

[To be prepared by Gilmore & Bell.]

EXHIBIT B

IRS FORM 8038-G

[Post Closing Item -- To be prepared and filed by Gilmore & Bell.]

EXHIBIT C

DESCRIPTION OF EQUIPMENT COMPRISING THE FINANCED ASSETS AND BENEFITTED FACILITIES^{}; REIMBURSEMENT^{**}]**

The Project includes the energy savings improvements, as set forth in the Energy Performance Contract dated as of _____, 2020, between Nashua School District and Energy Efficient Investments, Inc., as described therein and at the locations set forth on **Exhibit C-1** attached hereto.

The estimated average economic life of the Financed Assets is not less than ^{**20**} years, and the Financed Assets are expected to be placed in service in 2021.

*^{**List of Reimbursements, if any, to be listed.**}*

EXHIBIT C-1

LIST OF LOCATIONS FOR FINANCED ASSETS AND BENEFITTED FACILITIES

Nashua High School
8 Titan Way
Nashua, NH 03063

Nashua South High School
36 Riverside Street
Nashua, NH 03062

3 Arbitrage & Rebate	<p>1. Were the proceeds of the Lease Agreement spent in accordance with the following schedule? (a) at least 15% within 6 months from the Closing Date; (b) at least 60% within 12 months from the Closing Date; and (c) 100% within 18 months from the Closing Date.</p> <p>2. Has the Issuer or the District established a fund or account to make rental payments under the Lease Agreement or has the Issuer or the District established a segregated portion of investments in an account to make rental payments under the Lease Agreement?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
	<p>If the answer to question 1 above is "No," or the answer to question 2 above was "Yes," contact Special Tax Counsel to determine if an arbitrage rebate or yield restriction calculation must be completed.</p> <p>Include a description of Special Tax Counsel's advice in the Tax Compliance File. If an arbitrage rebate or yield restriction calculation is prepared, include a copy of the report in the Tax Compliance File.</p>	

By: _____
Compliance Officer

Date Completed: _____

EXHIBIT E

CERTIFICATE OF LENDER

**\$6,671,814
EQUIPMENT LEASE PURCHASE AGREEMENT
DATED AS OF OCTOBER 20, 2020, BETWEEN
MUNICIPAL LEASING CONSULTANTS, LLC, AS LESSOR, AND THE
CITY OF NASHUA, NEW HAMPSHIRE,
ON BEHALF OF NASHUA SCHOOL DISTRICT, AS LESSEE**

The undersigned, on behalf of Capital One Public Funding, LLC (the "Lender"), as assignee of Municipal Leasing Consultants, LLC, as lessor, under the above-referenced equipment lease purchase agreement (the "Lease"), being executed and delivered on the date hereof, certifies and represents as follows:

1. Issue Price.

(a) *Issue Price.* On the date of this certificate, the Lender is acquiring the Lease for the amount of \$6,671,814, plus \$_____ payable to Municipal Leasing Consultants, LLC. The Lender is not acting as an Underwriter with respect to the Lease. The Lender has no present intention to sell, reoffer, or otherwise dispose of the Lease (or any portion of the Lease or any interest in the Lease). The Lender has not contracted with any person pursuant to a written agreement to have such person participate in the execution and delivery of the Lease, and the Lender has not agreed with the City of Nashua, New Hampshire (the "City") or Nashua School District (the "District") pursuant to a written agreement to sell the Lease to persons other than the Lender or a Related Party to the Lender.

(b) *Defined Terms.*

(i) The term "Public" means any person (including an individual, trust, estate, partnership, association, company, or corporation) other than an Underwriter or a Related Party to an Underwriter.

(ii) The term "Related Party" is defined in U.S. Treasury Regulation § 1.150-1(b) which generally provides that the term related party means any two or more persons who have a greater than 50 percent common ownership, directly or indirectly.

(iii) The term "Underwriter" means (A) any person that agrees pursuant to a written contract with the District (or with the lead underwriter to form an underwriting syndicate) to participate in the initial sale of the Lease to the Public, and (B) any person that agrees pursuant to a written contract directly or indirectly with a person described in clause (A) of this paragraph to participate in the initial sale of the Lease to the Public (including a member of a selling group or a party to a retail distribution agreement participating in the initial sale of the Lease to the Public).

This certificate may be relied upon by the City and District in executing and delivering the Federal Tax Agreement relating to the Lease, and by Gilmore & Bell, P.C., Special Tax Counsel to the Lender, in rendering its opinion relating to the exclusion from federal gross income of the interest portion of rental payments paid under the Lease and in preparing any informational return required to be filed with the Internal Revenue Service in connection with the execution and delivery of the Lease.

[Signature page follows.]

Dated: October 20, 2020.

CAPITAL ONE PUBLIC FUNDING, LLC

By: _____
Name: Catherine DeLuca
Title: Vice President

LESSEE’S CLOSING CERTIFICATE

Re: Equipment Lease Purchase Agreement dated as of October 20, 2020, between the City of Nashua, New Hampshire, on behalf of Nashua School District, as lessee (“Lessee”), and Municipal Leasing Consultants, LLC, as lessor (“Lessor”) (the “Agreement”)

We, the undersigned, the duly appointed, qualified and acting Mayor and City Clerk of the above-captioned Lessee, do hereby certify as follows:

(1) Lessee did, at a meeting of the governing body of Lessee held October 13, 2020, by motion duly made, seconded and carried, in accordance with all requirements of law, approve and authorize the execution and delivery of the above-referenced Agreement and the related escrow agreement and tax agreement on its behalf by the following named representative of Lessee:

	Mayor	
Printed Name	Title	Signature
<i>[This signature line to be signed by person who executed the Agreement and the related escrow agreement and tax agreement on behalf of Lessee.]</i>		

(2) The above-named representative of Lessee held at the time of such authorization and holds at the present time the office designated above and the signature set forth opposite his or her name is the true and correct specimen of his or her genuine signature.

(3) The meeting of the governing body of Lessee at which the Agreement was approved and authorized to be executed was duly called, regularly convened and attended throughout by the requisite majority of the members thereof or by other appropriate official approval, and the action approving the Agreement and authorizing the execution thereof has not been altered or rescinded. Attached hereto as **Exhibits A-1 and A-2** are true and correct copies of resolutions, ordinances or other documents constituting such official action by the City of Nashua, New Hampshire and by Nashua School District.

(4) No event or condition that constitutes, or with the giving of notice or the lapse of time or both would constitute, an Event of Default (as such term is defined in the Agreement) exists at the date hereof.

(5) All insurance required in accordance with the Agreement is currently maintained by Lessee.

(6) Lessee has, in accordance with the requirements of law, fully budgeted and appropriated sufficient funds for the current fiscal year to make the Rental Payments scheduled to come due during the Original Term and to meet its other obligations for the Original Term (as such terms are defined in the Agreement), and such funds have not been expended for other purposes.

(7) There is no proceeding pending or threatened in any court or before any governmental authority or arbitration board or tribunal that, if adversely determined, would adversely affect the transactions contemplated by the Agreement or the interest of Lessor or its assigns, as the case may be, in the Equipment.

(8) The Equipment has not been the subject of a referendum that failed to receive the approval of the voters of Lessee within the preceding four years.

(9) Since June 30, 2019 (date of Lessee’s last audited financial statements), Lessee has not entered into any direct or contingent bond debt, lease, installment purchase or loan obligation, other than those listed on **Exhibit B** attached hereto.

(10) The correct billing address for Rental Payments is as follows:

Nashua School District
141 Ledge Street
Nashua, NH 03060
Attention: Chief Operating Officer

Dated: October 20, 2020.

CITY OF NASHUA, NEW HAMPSHIRE, ON
BEHALF OF NASHUA SCHOOL DISTRICT

By: _____
Name: _____
Title: Mayor

ACCEPTED:
NASHUA SCHOOL DISTRICT

By: _____
Name: Daniel Donovan
Title: Chief Operating Officer

**EXHIBIT A-1 TO
LESSEE'S CLOSING CERTIFICATE**

**COPY OF AUTHORIZATION DOCUMENT FROM THE
CITY OF NASHUA, NEW HAMPSHIRE
(per Section 3)**

*[Please provide. Attached is a form of resolution for
adoption if no resolution previously adopted.]*

RESOLUTION

The undersigned, being the officer identified below of the City of Nashua, New Hampshire (the "City"), hereby certifies that the following is a true and correct copy of a resolution adopted by the governing body of the City at a meeting duly held on October 13, 2020.

* * * *

WHEREAS, the City of Nashua, New Hampshire (the "City"), is a political subdivision duly organized under the constitution and laws of the State of New Hampshire; and

WHEREAS, it is hereby determined that a true and real need exists for the acquisition and installation of certain energy savings equipment to be acquired and installed at certain facilities of the Nashua School District (the "Equipment"); and

WHEREAS, it is necessary and desirable and in the best interest of the City of Nashua, New Hampshire, on behalf of Nashua School District, as lessee, to enter into an Equipment Lease Purchase Agreement (the "Agreement") with Municipal Leasing Consultants, LLC, as initial lessor (the "Lessor"), for the purposes described therein, including the leasing of the Equipment;

NOW, THEREFORE, BE IT RESOLVED, BY THE GOVERNING BODY OF THE CITY OF NASHUA, NEW HAMPSHIRE, AS FOLLOWS:

Section 1. The Agreement, in substantially the same form as presented to this meeting, and the terms and performance thereof are hereby approved, and the Mayor (or its designee) of the City is hereby authorized to execute and deliver the Agreement on behalf of the City, with such changes therein as shall be approved by such officer, such approval to be conclusively evidenced by such officer's execution thereof.

Section 2. The Escrow Agreement (the "Escrow Agreement"), among the City, the Lessor and the escrow agent named therein, in substantially the same form as presented to this meeting, and the terms and performance thereof are hereby approved, and the Escrow Agreement is hereby authorized to be executed and delivered on behalf of the City by a duly authorized officer of the City, with such changes therein as shall be approved by such officer, such approval to be conclusively evidenced by such officer's execution thereof.

Section 3. The Energy Performance Contract (the "Energy Contract"), between Nashua School District and Energy Efficient Investments, Inc. in substantially the same form as presented to this meeting, and the Energy Contract is hereby authorized to be executed and delivered.

Section 4. The City shall, and the officers, agents and employees of the City are hereby authorized and directed to take such further action and execute such other documents, certificates and instruments, as may be necessary or desirable to carry out and comply with the intent of this Resolution, and to carry out, comply with and perform the duties of the City with respect to the Agreement, the Escrow Agreement and the Energy Contract.

Section 5. The City has made certain capital expenditures in connection with the acquisition of the Equipment prior to the date hereof, and the City expects to make additional capital expenditures in connection with the acquisition of the Equipment in the future. The City intends to reimburse itself for all or a portion of such expenditures, to the extent permitted by law, with the proceeds of the Agreement or other tax-exempt obligations to be delivered by the City. The maximum principal amount of the Agreement or other tax-exempt obligations expected to be delivered for the Equipment is not expected to exceed \$6,671,814

Section 6. This Resolution shall take effect and be in full force immediately after its adoption by the governing body of the City.

PASSED AND ADOPTED by the governing body of the City of Nashua, New Hampshire, this 13th day of October, 2020.

CITY OF NASHUA, NEW HAMPSHIRE

By: _____

Name: _____

Title: _____

(To be signed by someone other than officer of the City that signed the Agreement and the Escrow Agreement.)

**EXHIBIT A-2 TO
LESSEE'S CLOSING CERTIFICATE**

**COPY OF AUTHORIZATION DOCUMENT FROM
NASHUA SCHOOL DISTRICT
(per Section 3)**

*[Please provide evidence of authorization of the Agreement
by the governing body of Nashua School District.]*

**EXHIBIT B TO
LESSEE'S CLOSING CERTIFICATE**

**LIST OF OUTSTANDING OBLIGATIONS SINCE JUNE 30, 2019
(DATE OF LESSEE'S LAST AUDITED FINANCIAL STATEMENTS)
(per Section 9)**

Please list all direct or contingent bond debt, lease, installment purchase or loan obligations (including estimated outstanding principal amount) that Lessee has entered into since June 30, 2019. If this statement is not applicable, please state "None."

ESSENTIAL USE CERTIFICATE

October 20, 2020

Municipal Leasing Consultants, LLC
7 Old Town Lane
Grand Isle, VT 05458

Re: Equipment Lease Purchase Agreement dated as of October 20, 2020, between the City of Nashua, New Hampshire, on behalf of Nashua School District, as lessee (“Lessee”), and Municipal Leasing Consultants, LLC, as lessor (“Lessor”) (the “Agreement”)

Ladies and Gentlemen:

I, Daniel Donovan, a duly elected, appointed, or designated representative of Nashua School District, am qualified to answer the questions set forth below regarding the Equipment to be acquired in connection with the above-referenced Agreement:

1. *What is the specific use of the Equipment?*

2. *What increased capabilities will the Equipment provide?*

3. *Why is the Equipment essential to your ability to deliver governmental services?*

4. *Does the Equipment replace existing equipment?
(If so, please explain why you are replacing the existing equipment)*

5. *Why did you choose this specific Equipment?*

6. *For how many years do you expect to utilize the Equipment?*

7. *What revenue source will be utilized to make Rental Payments due under the Agreement?*

Very truly yours,

NASHUA SCHOOL DISTRICT

By: _____
Name: Daniel Donovan
Title: Chief Operating Officer

OPINION OF LESSEE COUNSEL
[Please furnish on Attorney's Letterhead.]

October 20, 2020

Municipal Leasing Consultants, LLC
7 Old Town Lane
Grand Isle, VT 05458

Re: Equipment Lease Purchase Agreement dated as of October 20, 2020, between the City of Nashua, New Hampshire, on behalf of Nashua School District, as lessee ("Lessee"), and Municipal Leasing Consultants, LLC, as lessor ("Lessor") (the "Agreement")

Ladies and Gentlemen:

As legal counsel to Lessee, I have examined (a) an executed counterpart of the Agreement, which, among other things, provides for the lease by Lessee from Lessor of the Equipment, (b) an executed counterpart of the Escrow Agreement, dated as of October 20, 2020 (the "Escrow Agreement"), among Lessor, Lessee and the escrow agent named therein, (c) an executed counterpart of the Federal Tax Agreement, dated October 20, 2020 (the "Tax Agreement"), from Lessee and Nashua School District (the "District"), (d) an executed counterpart of the Energy Performance Contract dated _____, 2020 (the "Performance Contract"), between the District and Energy Efficient Investments, Inc., (e) executed copies of the resolution(s), ordinance(s) or other evidence of authorization from Lessee's governing body and the governing of the District which, among other things, authorizes Lessee to execute the Agreement, the Escrow Agreement, the Tax Agreement and the Performance Contract, and (f) such other opinions, documents and matters of law as I have deemed necessary in connection with the following opinions.

Based on the foregoing, I am of the following opinions:

1. Lessee is a public body corporate and politic, duly organized and existing under the laws of the State of New Hampshire, and has a substantial amount of one or more of the following sovereign powers: (a) the power to tax, (b) the power of eminent domain, and (c) police power.
2. Lessee has the requisite power and authority to purchase the Equipment and to execute and deliver the Agreement, the Escrow Agreement, the Tax Agreement and the Performance Contract and to perform its obligations thereunder.
3. The Agreement, the Escrow Agreement, the Tax Agreement and the Performance Contract and the other documents either attached thereto or required therein have been duly authorized, approved and executed by and on behalf of Lessee, and the Agreement, the Escrow Agreement, the Tax Agreement and the Performance Contract are valid and binding obligations of Lessee enforceable in accordance with their respective terms.
4. The authorization, approval and execution of the Agreement, the Escrow Agreement, the Tax Agreement and the Performance Contract and all other proceedings of Lessee relating to the transactions contemplated thereby have been performed in accordance with all open meeting laws, public bidding laws and all other applicable state and federal laws.
5. There is no proceeding pending or threatened in any court or before any governmental authority or arbitration board or tribunal that, if adversely determined, would adversely affect the transactions contemplated by the Agreement, the Escrow Agreement, the Tax Agreement and the Performance Contract or the security interest of Lessor or its assigns, as the case may be, in the Equipment.
6. The Equipment to be leased pursuant to the Agreement constitutes personal property and when subjected to use by Lessee will not be or become a fixture under applicable law.
7. The authorization, execution, delivery and performance of the Agreement, the Escrow Agreement, the Tax Agreement and the Performance Contract by Lessee do not require submission to, approval of, or other action by any governmental authority or agency which action has not been taken and is final and non-appealable.

All capitalized terms herein will have the same meanings as in the Agreement. Lessor, its successors and assigns and any counsel rendering an opinion on the exclusion of the interest components of Rental Payments from gross income for purposes of federal income taxation are entitled to rely on this opinion.

Very truly yours,

OPINION OF SPECIAL TAX COUNSEL

[To be provided by Gilmore & Bell.]

INSURANCE CERTIFICATES (PROPERTY, LIABILITY AND WORKERS' COMPENSATION) COMPLYING WITH THE PROVISIONS OF SECTION 22 OF THE AGREEMENT TO BE PROVIDED BY LESSEE, WITH THE FOLLOWING PARTY SHOWN AS LOSS PAYEE AND ADDITIONAL INSURED WITH RESPECT TO PROPERTY INSURANCE, AND SHOWN AS ADDITIONAL INSURED WITH RESPECT TO LIABILITY INSURANCE:

Capital One Public Funding, LLC and its successors and assigns
1307 Walt Whitman Road, 3rd Floor
Melville, NY 11747

[To be provided by Lessee before money is withdrawn
from the Escrow Fund for costs of the Equipment.]

**ENERGY PERFORMANCE CONTRACT
WITH ENERGY EFFICIENT INVESTMENTS, INC.**

[Signed copy to be provided prior to Closing Date.]

PAYMENT AND PERFORMANCE BONDS RESPECTING THE EQUIPMENT, INCLUDING DUAL OBLIGEE RIDER NAMING THE FOLLOWING PARTY AS AN ADDITIONAL OBLIGEE

Capital One Public Funding, LLC and its successors and assigns
1307 Walt Whitman Road, 3rd Floor
Melville, NY 11747

[To be provided by Lessee before money is withdrawn
from the Escrow Fund for costs of the Equipment.]

NOTICE OF ASSIGNMENT

October 20, 2020

City of Nashua, New Hampshire,
on behalf of Nashua School District
229 Main Street
Nashua, NH 03060

Re: Equipment Lease Purchase Agreement dated as of October 20, 2020, between the City of Nashua, New Hampshire, on behalf of Nashua School District, as lessee ("Lessee"), and Municipal Leasing Consultants, LLC, as lessor ("Lessor") (the "Agreement")

Ladies and Gentlemen:

Please be advised that the undersigned Lessor has assigned all of its right, title and interest in, to and under the Agreement, the Equipment leased thereunder, and the right to receive Rental Payments thereunder and the payment of the Purchase Price thereunder to Capital One Public Funding, LLC, a New York limited liability company ("Assignee"), whose mailing address is 1307 Walt Whitman Road, 3rd Floor, Melville, NY 11747, and whose tax identification number is 11-2209667.

All Rental Payments and payment of the Purchase Price due under the Agreement should be made to the Assignee by wire or other form of electronic payment in accordance with written instructions provided by Assignee or, with Assignee's consent, by mail at the address below or as otherwise instructed by Assignee

CAPITAL ONE PUBLIC FUNDING, LLC
1307 WALT WHITMAN ROAD, 3RD FLOOR
MELVILLE, NY 11747

Lessee acknowledges that Assignee is acting solely as Assignee for its own loan account and not as a fiduciary for Lessee or in the capacity of broker, dealer, placement agent, municipal securities underwriter, municipal advisor or fiduciary. Assignee has not provided, and will not provide, financial, legal (including securities law), tax, accounting or other advice to or on behalf of Lessee (including to any financial advisor or any placement agent engaged by Lessee) with respect to the structuring, issuance, sale or delivery of the Agreement. Lessee acknowledges that Assignee has no fiduciary duty pursuant to Section 15B of the Securities Exchange Act of 1934 to Lessee with respect to the transactions relating to the structuring, issuance, sale or delivery of the Agreement and the discussions, undertakings and procedures leading thereto. Each of Lessee, its financial advisor and its placement agent has sought and shall seek and obtain financial, legal (including securities law), tax, accounting and other advice (including as it relates to structure, timing, terms and similar matters and compliance with legal requirements applicable to such parties) with respect to the Agreement from its own financial, legal, tax and other advisors (and not from Assignee or its affiliates) to the extent that Lessee, its financial advisor or its placement agent desires, should or needs to obtain such advice. Assignee expresses no view regarding the legal sufficiency of its representations for purposes of compliance with any legal requirements applicable to any other party, including but not limited to Lessee's financial advisor or placement agent, or the correctness of any legal interpretation made by counsel to any other party, including but not limited to counsel to Lessee's financial advisor or placement agent, with respect to any such matters. Lessee acknowledges that the transaction between Lessee and Assignee is an arm's length commercial transaction in which Assignee is acting and has acted solely as a principal and for its own interest, and Assignee has not made recommendations to Lessee with respect to the transaction relating to the Agreement.

[The remainder of this page left blank intentionally.]

Please acknowledge your receipt of this notice and your agreement to make payments due under the Agreement to Assignee by the signature of a duly authorized officer in the space provided on the enclosed counterpart of this letter and return it to us at the address set forth below.

Sincerely,

MUNICIPAL LEASING CONSULTANTS, LLC,
LESSOR

By: _____
Name: _____
Title: _____
Address: 7 Old Town Lane
Grand Isle, VT 05458

ACKNOWLEDGED AND AGREED TO:
CITY OF NASHUA, NEW HAMPSHIRE, ON BEHALF
OF NASHUA SCHOOL DISTRICT

By: _____
Name: _____
Title: Mayor

ACCEPTED:
NASHUA SCHOOL DISTRICT

By: _____
Name: Daniel Donovan
Title: Chief Operating Officer

ASSIGNMENT

[To be entered into between Initial Lessor and Capital One Public Funding, LLC]

UCC-1 FINANCING STATEMENTS

[To be prepared and filed by Lessor Counsel.]

LENDER CERTIFICATE

[See separate letter and form of Lender Certificate from Capital One Public Funding, LLC]

**FORM W-9 FROM THE
CITY OF NASHUA, NEW HAMPSHIRE**

[On file with Lessor.]



ORDINANCE

ADOPTING A TAX INCREMENT FINANCING (TIF) DEVELOPMENT DISTRICT UNDER RSA 162-K AND NRO 295-11, THE "SCHOOL STREET TIF" AND A TAX INCREMENT FINANCING DEVELOPMENT PROGRAM AND FINANCING PLAN FOR THE NEW TIF

CITY OF NASHUA

In the Year Two Thousand and Twenty

The City of Nashua ordains that Part II "General Legislation," Chapter 295 "Taxation," Article V "Development and Revitalization Districts," of the Nashua Revised Ordinances, as amended, is hereby amended by adding a new section as follows:

"§295-12.1 District identified.

A. The following properties shall constitute a tax increment financing development district:

The property identified as Tax Map 79, Lot 35

The property identified as Tax Map 79, Lot 54

The property identified as Tax Map 79, Lot 129

The property identified as Tax Map 81, Lot 3

The property identified as Tax Map 81, Lot 16

The property identified as Tax Map 81, Lot 81

The property identified as Tax Map 81, Lot 95

The property identified as Tax Map 81, Lot 98

The property identified as Tax Map 81, Lot 104

ORDINANCE

O-20-030

- B. Such district shall also include any lots created out of or established from the foregoing lots.”

And further, it is hereby **RESOLVED** by the Board of Aldermen of the City of *Nashua* that the attached “Tax Increment Financing Development Program and Financing Plan” is hereby adopted for the tax increment financing development district comprised of land identified in NRO Section 295-12.1.

LEGISLATIVE YEAR 2020

ORDINANCE: O-20-030

PURPOSE: Adopting a Tax Increment Financing (TIF) Development District under RSA 162-K and NRO 295-11, the “School Street TIF” and a Tax Increment Financing Development Program and Financing Plan for the New TIF

SPONSOR(S): Mayor Jim Donchess

**COMMITTEE
ASSIGNMENT:**

FISCAL NOTE: The proposed TIF district at this time does not have any direct impact on the City’s budget. This legislation sets out the governance process necessary to capture the future tax increment within the district, which we do not know, but could range from \$1,400,000 to \$1,500,000 based on a five year timeline. This money would be used to make improvements as outlined on the plan.

ANALYSIS

RSA Chapter 162-K, adopted by the City in 1998, enables the City to establish economic development and revitalization districts, in which enhanced property tax revenue is designated to offset the cost of designated improvements, which may be financed by general obligation bonds. NRO §295-11 adopts the general powers of RSA Chapter 162-K; this legislation adopts a new development district comprised of the identified parcels situated on or around School Street and adopts a development program and tax increment financing plan for the district.

A development district may be designated by the Board of Aldermen upon a finding that it will serve a public purpose. RSA 162-K:5. The district development program and tax increment financing plan details the proposed public and private uses of the district and estimates the cost of the development program and the sources of revenue. See RSA 162-K:6 and 9.

Prior to designating any development district, a hearing shall be conducted by the governing body, held at least 15 days prior to the date on which action on the proposal is scheduled to take place. Notice of the hearing, including a description of the proposed district, shall be posted in 2 appropriate places in the City or published in a newspaper of general circulation at least 7 days prior to the hearing. See RSA 162-K:4.

Before formation of a development district, the City shall provide a reasonable opportunity to the county commissioners and the school board to meet with the governing body. The governing body shall fully inform the county commissioners and the school board of the fiscal and economic implications of the proposed development district. The county commissioner and school board may present their recommendations at the public hearing. See RSA 162-K:9, III.

The City’s annual report shall contain a financial report for any development district in the City. RSA 162-K:11. The Board of Aldermen must designate an administrator and advisory board for the development district. RSA 162-K:13 and 14. This legislation has the Economic Development Director serve as the administrator and the Advisory Board is described in the Plan.

Approved as to account structure, numbers and amount:

Financial Services Division

By: /s/ John Griffin

Approved as to form:

Office of Corporation Counsel

By: /s/ Celia K. Leonard

Date: 9/2/2020

School Street

Tax Increment Finance District

Development Program & Financing Plan

Date: _____



Adopted by the Nashua Board of Aldermen _____

TABLE OF CONTENTS

Introduction	3
Purpose & Objective	3
Background	3
District Boundary	4
Conformance with District Limitations Per RSA 162K:5	5
Proposed Improvements	5
Economic Benefits	6
Environmental Controls	7
Proposed Re-Use of Private Property	7
Relocation & Displacement	8
Operations & Maintenance of the District	8
Estimated Cost of Development Program	8
Funding Sources	8
The TIF District & RSA 79E	9
Development Agreements	9
Impacts on the Other Taxing Jurisdictions	10
Plan Amendments	10
Duration of Program	11
TIF District Administration	11
Advisory Board	12
Annual Report	13

Appendix A - District Boundary Map

Appendix B – 2003 Downtown Master Plan

Appendix C – 2015 Downtown Circulation Study

Appendix D- Performing Arts Center Feasibility Study

Appendix E-Technical Memo on Parking Located On the Ground Floor of the School Street Parking Lot

Appendix F –Property Cards

Appendix G – District Properties, Acreage and Established Value

Appendix H – Adopting Provisions of RSA 162-K

Introduction

In accordance with the provisions of RSA 162-K, Municipal Economic Development and Revitalization Districts, the Nashua Board of Aldermen hereby establishes the School Street Tax Increment Financing ("TIF") District, and the associated Development Program and Financing Plan (hereinafter "the TIF Plan").

Purpose & Objectives

The purpose of the TIF Plan is to advance the desirable development, redevelopment and physical improvements along the adjacent to West Pearl Street and School Street creating a mixed-use environment and a growing multi-family neighborhood. This plan is to create the framework to fund a variety of public improvements necessary to support this vision.

The objectives of this development program and TIF plan are to:

- Improve and upgrade public infrastructure and public amenities that encourage and create opportunities for businesses and housing to locate and expand within the district.
- Enhance employment and residential opportunities for area residents within the district.
- Expand the property tax base.
- Enhance arts and cultural assets within the district including continuing supporting the future Performing Arts Center located at 201 Main Street.
- To or improve parking either through management or adding additional parking.

Achievement of these objectives will occur through a combination of efforts. Existing and future property and business owners, new investors, and City staff and the City Board of Aldermen will be required to discuss redevelopment initiatives, and work cooperatively on funding plans and projects.

What happens to one singular building is important, especially to its owner, but more important is the goal of implementing comprehensive revitalization efforts that help support the economic, cultural, and societal health of the entire neighborhood. The goal, purpose, objective, and strategy of the City of Nashua is to work in a systematic and dedicated fashion to bring vitality, excitement, and character to an area that is ripe for reinvestment in an area of the city that is changing. The downtown is going through a renaissance moving away from retail as a mainstay to an entertainment and arts and cultural district.

Without question the overarching goal is to increase property values and to do this strategic public investments are necessary.

Background

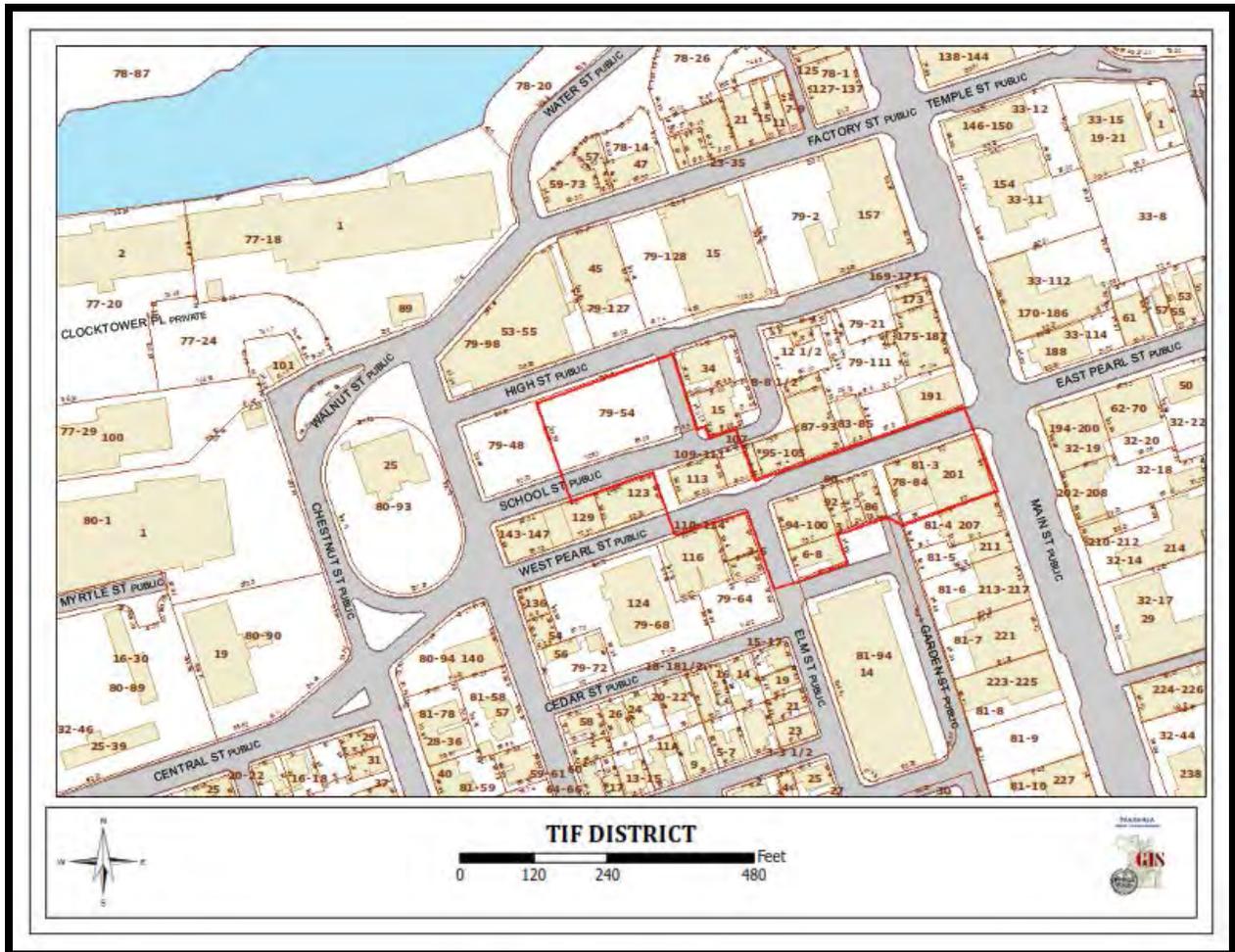
The city issued a Request for Proposals ("RFP") in the winter of 2017 seeking real estate development on 79 Map 54 Parcel an 80+ surface parking lot. Over the course of the past four years working with Lansing Melbourne Group ("LMG") on developing a plan for this surplus piece of property. There is a proposal to erect a 144 unit apartment building on the air rights above the parking lot. During the development of this proposal the abutters raised the question as to whether public parking could be provided for on the first floor. This led to a re-visioning of how the city and the developer would move forward.

Simultaneously, the city over the last few years has contemplated a streetscaping and infrastructure enhancement along West Pearl Street coupled with a reversal of the flow of traffic on West Pearl. More broadly this would also allow for the squaring off the “Courthouse Oval” on Walnut/Central and Factory/Chestnut Street(s).

In addition to the above the city along with some very committed private sector stakeholders have been working diligently to bring a Performing Art Center to the City of Nashua. When this comes to fruition it will bring about a cultural asset like no other to the area will assist in the neighborhood in transitioning into an entertainment and artistic district.

District Boundary

The boundary of the district is shown on Appendix A and included below. The map delineates a land area of 1.63 acres incorporating essentially half of a block from Main Street to Elm Street running along West Pearl Street then crossing over and traveling up School Street halfway.



TIF Development Program

The following outlines the elements of a development program per RSA 162K.

Conformance with District Limitations per RSA 162-K:5

The size of the district is 1.63 acres. The City of Nashua has a total of 19,712 acres. Therefore the district represents significantly less than the 5% maximum of the total City acreage per RSA 162-K:5.I.

The total assessed value [as of April 1, 2020] of all taxable property within the TIF boundary is \$5,007,000 or less than half a percent of the total of all taxable property within the City. Per RSA 162-K:5.II the properties within the TIF represent significantly less than the 8% maximum allowable of the total assessed value demonstrating conformance.

Proposed Improvements

The 2003 Downtown Master Plan highlights a broad range of concepts and recommendations that can facilitate economic revitalization for specific properties and calls out certain areas where there could be a transformative development catalytic for the area, which would reinvigorate the blighted area(s). The plan contemplates specific improvements as well as articulating broad-based themes. It is the belief of the that the best TIF plan is one which does not lock the City into a defined list of specific projects; re-development goals or the infrastructure needs of the City, because they can shift with changing markets, or as a result of different land uses that might be proposed for a specific property. However, the design framework outlined in the 2003 Downtown Master Plan is very applicable and will be used as a guide. Ultimately, being flexible towards what potential TIF projects might work at a certain time will provide for the best utilization of TIF funds, which are, at the end of the day, the incremental tax revenues paid by the TIF District. Again, the 2003 Downtown Master Plan is a guiding document, please see Appendix B.

The 2015 Downtown Circulation Study, please see Appendix C is another document that provides additional guidance on how the circulation and flow of traffic could improve with broad based improvements to the downtown area. Ultimately, the 2015 Downtown Circulation Study attempts to better connect Main Street to the Broad Street Parkway with ancillary improvements suggested to create a better downtown environment.

Finally, The Performing Arts Feasibility Study, please see Appendix D, which outlines the City's overall vision to have a 750 seat flexible venue in the heart of downtown to help revitalize the city.

There is a broad framework of projects that could provide for enhanced revitalization efforts; examples include, but are not limited to, the following:

- Infrastructure improvements [sidewalk/crosswalks/utility upgrades and relocation] that allow for better utilization of property in the District; or stormwater drainage upgrades that will provide for enhanced protection of the Nashua River;
- The construction of, or improvements to, public spaces that will create better links between city residents and visitors to the downtown, which is important to our City's economic history and cultural fabric;
- Construction of a Performing Arts Center;
- Open spaces introduced in strategic locations to support a mixed use environment and provide good urban design benefits.

- The acquisition of buildings or properties which would be better utilized for a public purpose [ex. parking or open/recreational spaces]; and,
- Transportation projects that improve access to the TIF District and/or provide for pedestrian safety. Including looking at the one way reversal of traffic flow and the adding of parking spaces on street.

Each TIF project which is presented to the Board of Aldermen will be linked with one of these general project categories. Each project must also satisfy one of the "public use" definitions contained in RSA 162-K:2. Each project that is approved, following a public hearing, by the Board of Aldermen will constitute a formally adopted modification to this overall TIF Plan, and it's Financing Plan.

Any project brought forward to the Board of Aldermen for approval will need to address how the Downtown area of (West) Pearl and School Streets Tax Increment Financing District is enhanced, utilized or benefited through the implementation of the project. The Board of Aldermen understands the importance of this land area, especially given the valuable resources being associated in a vibrant downtown.

Examples of improvements that could be part of a TIF project include:

- Streetscaping on West Pearl Street; and
- Construction of a Performing Arts Center
- Sewer upgrades
- Utility Pole relocation(s)
- Parking (Management/Creation)

Economic Benefits of the Overall TIF Project

The framework of these improvement categories described herein are required in order to service the existing population and accommodate and encourage future growth. It is the latter that is needed most in the City. As pointed out earlier in this Plan, the economic viability of the downtown area has suffered and is starting to resurge.

The decisions by the Board of Aldermen to undertake TIF improvements coupled with the positive initiatives being brought forward by some owners and investors can and will be a significant catalyst for an upswing in the downtown economy. The combination of TIF projects, private investments, and the use of other state and federal loan, grant and tax incentive programs creates a cooperative framework that can be very effective and transformative.

The complete economic revitalization of the downtown will be fulfilled with many small steps. Progress is being made, and will continue to be made, through cooperation and communication. Adopting a TIF program is one strategy that needs to be cultivated along with other downtown improvement strategies. One singular approach will not solve all of the economic issues within the downtown.

The following is a list of potential future forecasted development or redevelopment within the district:

Project	Location	Use	Estimated Tax Revenue
School Street Apartments	School Street	Housing	\$430,000.00

*The calculation uses a 2019 tax rate

Goals and needs of the business community and city residents must be openly discussed and aligned. All aspects of a project must be clearly outlined and understood by all parties this way, the economic benefits of this overall TIF Plan and the future project-specific modifications will be realized. The 2003 Downtown Master Plan shall be the principle guiding document due to its breadth in scope outlining the desires and wishes of the community due its extensive outreach efforts to gather community input.

Public Facilities

There will be a variety of public facilities potentially constructed as discussed including a Performing Arts Center and Streetscaping improvements along with the addition of additional parking.

Open Space Planning

As referenced in the 2003 Downtown Master Plan open space and the creation thereof along with the associated recreational opportunities and aesthetic improvements of this nature are important factors and should be taken into consideration for an overall downtown area. These improvements need to be balanced with the potential development that is also encouraged in a downtown, because seeking economic development opportunities is also a priority, especially to ensure there is sufficient revenue available to finance improvements. In this limited TIF District Open Space Planning will not be highly prioritized due to the small land area.

Environmental Controls

Given the historic nature of the developed areas of downtown Nashua and the industrial activities that occurred in the mills, without question there are environmental issues and concerns that will need to be dealt with during any project. The City of Nashua, as well as private parties, will be required to comply with all appropriate environmental regulations. These regulations may include, but are not limited to, any or all of the following:

- State and federal regulations regarding the protection of wetlands and floodplains
- Local/State standards for design of public sewer systems
- Local/State permits regarding soil disturbance/filling
- Local/State and federal regulations regarding air, water, and noise pollution
- Applicable building and life safety codes, zoning ordinance and site planning regulations
- Contamination by hazardous materials and the required clean-up protocols

Proposed Re-Use of Private Property

Since the Board of Aldermen will consider specific projects as plans are finalized in future years, it is difficult to know for certain what the intersection of private property and public projects will look like. The City has explored in the past the acquisition of certain properties for public uses, and it is expected that this approach will remain an option for future projects. As with all TIF projects, the costs and benefits for a possible purchase or taking of private property will be weighed with great care. All public uses and any private uses, whether through lease agreements, outright sales, or other appropriate mechanism will be conducted in conformance with all applicable sections of the RSA 162-K.

Relocation and Displacement

The City of Nashua will work to minimize the impacts of relocation for any residents or businesses within the District boundary. All relocation and dislocation activities will be in conformance with RSA 162-K, Section 6 and 15. Prior to the final acquisition of any property that is part of a specific TIF project and which would involve persons displaced by the project, a Relocation Plan will be prepared and submitted to the Administrator for review and approval. A copy of this plan will also be submitted to the Advisory Board for comment.

Operations and Maintenance of the District

The added cost for operation and maintenance [O & M] associated with the specific design of a TIF project will be part of the proposal package presented to the Board of Aldermen. The City will make every effort to minimize added O & M costs. If significant added O & M costs are identified, then, at the discretion of the Administrator funding of O & M costs may be part of the TIF Financing plan.

One of the goals, which is of the utmost importance is that no additional O & M be placed on the city's general budget.

Estimated Costs of the Development Program

Due to the fact that the Nashua is utilizing a project-specific approval process, it is not possible to provide estimates at this time for a development program. Any TIF project presented to the Board must include a complete cost estimate.

What is known is that the Nashua Performing Arts Center Feasibility Study is acting as a guiding document. This project is well underway with a total project cost of \$25.0 million. There are a few identified sources of funds, but a gap of approximately \$6.0 million, which TIF funds could be used. Additionally, attached in Appendix E is a technical memo outlining the costs for the proposed parking to be included into the School Street Apartment project.

It should be noted, that the above are two known projects that were the impetus for the development of this TIF. Over the coming years if a new project is proposed a full cost estimate will be included and understood.

Funding Sources

The City of Nashua intends to use multiple funding sources to complete the proposed work associated with any TIF project. Without question, a comprehensive revitalization program needs to utilize a broad range of funding sources or support mechanisms.

Examples include:

- Community Development Block Grant programs (CDBG)
- USDA Rural Development Grants
- NHDES Financial Assistance Water or Wastewater Grant programs
- New Market Tax Credits
- Historic Tax Credits
- Community Development Finance Authority programs

- N.H. Housing and Finance Authority programs
- NHDOT Enhancement Grants
- TCSP Grants from the Federal Highway Authority
- New Hampshire Business Finance Authority programs

A key component for the project funding is the use of the accumulated TIF Funds. All of the added-value tax increments shall be set aside and placed into the dedicated TIF Account fund.

It is the overall goal of the Board of Aldermen to pay for projects [either entirely or partially] through the use of the TIF Account Fund. All of the TIF Funds shall be directed towards the payment for specific TIF projects or the retirement of the outstanding bonds and notes issued for the improvements and activities approved through this Plan. The baseline values used to determine tax increments will be as of April 1, 2020. Enclosed in Appendix F are the property cards for the subject properties included in the TIF District.

For the purposes of determining the tax increments, the market based appreciation in value of any property shall be considered as new values to be captured for the dedicated TIF fund.

If there are available TIF Funds in excess of that which is necessary to fund the outstanding financial obligations for approved projects in a given year then the excess amount shall: 1) be used to make additional principal payments on bonds issued in conjunction with approved projects; 2) With the consent of the Board of Aldermen, be applied to a newly approved project within the TIF District; and 3) used for O&M as necessary.

Pursuant to RSA 162-K, the City of Nashua may issue bonds or other appropriate debt instruments to pay for the proposed work and improvements approved under this Plan, and any future approved modification.

As noted elsewhere in this Plan, the projects carried out under this Plan need to be fluid so the City can react to changing needs and circumstances in order to effectively move the goals and objectives forward. The Board of Aldermen, through a public hearing and Plan modification process, must approve all projects and the expenditures of all funds.

The TIF District and RSA 79-E

The Nashua Board of Aldermen voted in 2013 to adopt the provisions of RSA 79-E, the Community Revitalization Tax Relief Incentive program. This program provides a tax incentive for the rehabilitation of buildings in the City's core downtown area, which includes the area within the TIF District. Projects granted tax relief under RSA 79-E pay property taxes, for a determined period of time based on the pre-rehabilitation values.

Recognizing that there is a relationship between the implementation of a TIF Plan or project, and the collection of taxes that might occur under a property subject to tax relief under 79- E, the NH Legislature included the following language at Paragraph 79-E:4:

“VI. Municipalities shall have no obligation to grant an application for tax relief or properties located within Tax Increment finance Districts when the governing body determines, in its sole discretion, that the granting of tax relief will impede, reduce, or negatively affect:

- (a) *The development program or financing plans for such tax increment finance districts; or*
- (b) *The ability to satisfy or expedite repayment of debt service obligations incurred for a tax increment financing district; or*
- (c) *The ability to satisfy program administration, operating, or maintenance expenses within a tax increment financing district. "*

The Board of Aldermen will provide a public hearing for any application for tax relief under 79-E, and each application will be evaluated on its own merits. The Board does recognize that providing 79-E tax relief to a specific property may have an impact on the ability of the City to accrue the necessary TIF funds for the realization of projects that will benefit the City as a whole, but also may directly benefit that specific property. The Board of Aldermen will take the above 79-E language into consideration when making a decision on any individual 79-E application(s).

Development Agreements

The City acknowledges that the creation of public-private partnerships to further the goals and objectives of the TIF District and the Plan as outlined involves some level of risk on the part of both parties.

At the same time, the City recognizes that opportunities for risk with public funds are not in the best interest of the citizens and taxpayers of Nashua. It is not the intent of the Board of Aldermen to vote to authorize the issuance of any bonds or other financial obligation notes without the execution and recording of the appropriate Development Agreements in order to protect the interests of the City and its residents.

As part of the proposal for a private sector spurred project, the Board of Aldermen shall be provided with information on the project costs, the funding plan, and the Development Agreement. The exact language of a Development Agreement will depend on the complexity of the project. The Board of Aldermen may require the developer(s) to execute a clearly enforceable Agreement which will require the developer(s) to pay any deficiency between the City's actual annual cost for bond debt service and incremental tax revenues generated in, or available to, the District. The Board of Aldermen shall have final approval of the language of any Agreement negotiated by the Administrator. All Agreements shall be executed and recorded in the Hillsborough County Registry of Deeds.

Should the City desire to support public improvement within the general project area using the captured incremental tax revenues within the district than in this case, a Development Agreement will not be required.

Impacts on Other Taxing Jurisdictions

Property taxes applied to incremental assessed value in the TIF District will include the municipal, school [local and state], and county taxes currently collected by the City. The Board of Aldermen has not yet adopted the 2020- tax rates; the current 2019 applicable tax rates are as follows:

Municipal	\$8.68
County	\$9.80

Education Local	\$2.13
Education State	\$1.15
Total	\$21.76

The estimated impact of tax increment financing on the assessed values of all other taxing jurisdictions within the City of Nashua is negligible, since the proposed improvements are designed to encourage commercial investment and lessen the residential tax burden. Thus, these activities will contribute to a long-term increase in the non-residential tax base at a faster rate than would otherwise be achieved.

Over the next five years there is a potential aggregate figure approximately \$500,000 of new tax dollars on the horizon.

Plan Amendments

Pursuant to RSA 162-K:9, this plan may be amended by a vote of Board of Aldermen in conformance with all applicable time frames and notice requirements. As discussed previously, each specific TIF project will be brought forward to the Board of Aldermen for review and approval, thus there will be future amendments to this TIP Plan.

Duration of Program

The TIF District will exist until all improvements or projects approved by the Board of Aldermen have been completed, and all debt issued and borrowing initiated to fund the projects is retired.

The Board of Aldermen will consider the recommendations by the Administrator regarding the proposed expiration of the TIF Plan and District along with amendments. The Board of Aldermen reserves the right to evaluate the TIF Plan every year following its adoption, and make any necessary modifications to the Plan to ensure that all goals and objectives are being met.

Upon full repayment of any outstanding bonds, all TIF Account Funds may be available for all District purposes, as outlined in, and approved by the Board of Aldermen as part of any modification to this Plan. The Annual Report prepared by the Administrator may recommend that a certain percentage of the tax increments may be returned to the City for general fund purposes, and Board of Aldermen approval for that allotment shall not be subject to a formal modification and public hearing process.

Apportionment of Captured Assessed Value

Pursuant to RSA 162-K:10 (a) this plan designates up to 100% of the captured assessed value will be dedicated for retirement of bonds and notes with a de-minimis portion going toward operations or further development of the tax increment financing district. This plan allows for the project to outline specifically how the TIF funds are used when presented for approval.

TIF District Administration

The City Economic Development Director shall be the Administrator of the District and act in with RSA 162-K:13, which prescribe the following duties and powers granted to the City Economic Development Director and it is generally understood the Administrator shall have the following powers:

- 1) Negotiate for the acquisition of real property or easements, and sign options and purchase and sales agreements to acquire said property or easements subject to final approval by the Board of Aldermen;
- 2) Enter into contracts for the construction of any of the facilities included in the development program
- 3) Negotiate and sign, upon the approval of the Board of Aldermen, any contracts relative to the design, engineering, construction or operations of any phase or component of the activities proposed under this Plan;
- 4) Apply for, and accept and execute, upon the approval of the Board of Aldermen, grants from any private or public organization or corporation, or from any state or federal agency for any work associated with this Plan;
- 5) Negotiate any Development Agreements and present the Agreements to the Board of Aldermen for final approval;
- 6) Certify to the Board of Aldermen, for acquisition through eminent domain, property that cannot be acquired by negotiation, but is required for implementation of the Plan; and
- 7) Certify to the Board of Aldermen the amount of funds, if any, which must be raised through the sale of bonds to finance the activities associated with this Plan.
- 8) Engage in any other administrative or ministerial duties necessary for implementation of the development plan and program as outlined.

The Board of Aldermen may grant through an affirmative vote of the Board of Aldermen, additional powers, as deemed necessary and appropriate, in order to implement the goals, purpose, work and improvements outlined in this Plan or any future amendment.

Advisory Board

In accordance with 162-K: 14, the Board of Aldermen through this Development Program and Financing Plan shall appoint the following Advisory Board Members: Managing Partner of Lansing Melbourne Group or his/her designee (Peter Flotz), Chair of Performing Arts Center Steering Committee (Rich Lannan), the Director of Economic Development (Tim Cummings), the Director of Community Development (Sarah Marchant) and the Treasurer (David Fredette) all for a one year term.

After the initial one year term members of the Advisory board shall be appointed by the Mayor and confirmed by the Board of Aldermen, for one year terms or until their successors are qualified, to advise the Mayor and district administrator on planning, construction and implementation of the development program and on the maintenance and operation of the district after the program has been completed.

The district administrator shall consult with the advisory board at least forty-five (45) days before implementation of a phase of the development program and the advisory board may appeal to the Board of Aldermen concerning a district administrator decision no later than thirty (30) days before a phase is to be implemented. Decisions of the District Administrator shall not be overturned except for abuse of discretion.

Annual Report

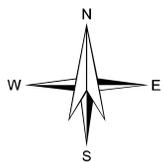
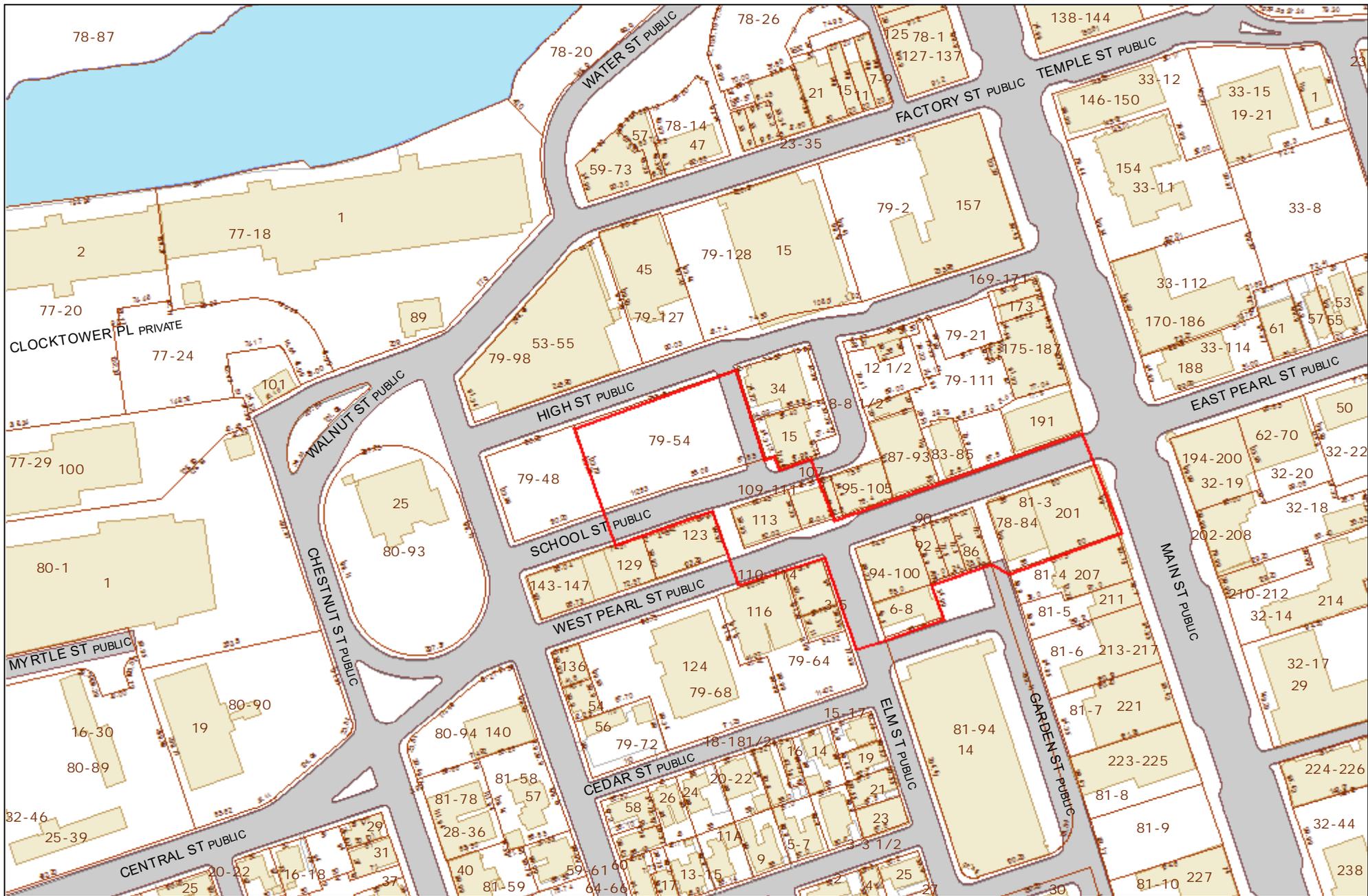
Pursuant to RSA 162-K:11, the City, by and through the Administrator of the District, in consultation with the Advisory Board, shall prepare an annual report containing the following:

- A Narrative Report on the status of the implementation of the Plan and a summary of the work that has been completed within the previous year;
- The amount and source of revenue of the District;
- The amount and purpose of expenditures;
- The amount of principal and interest on any outstanding bonded indebtedness;
- The original assessed value of the District;
- The captured assessed value retained by the District;
- The tax increments received; and
- Any additional information necessary to demonstrate compliance with the TIF Plan

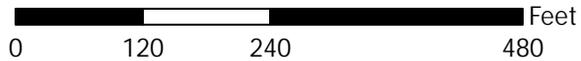
This is understood through an affirmative vote by the Board of Aldermen to Adopt the provisions of Chapter 162-K on November 24, 1998

Appendix A

District Boundary

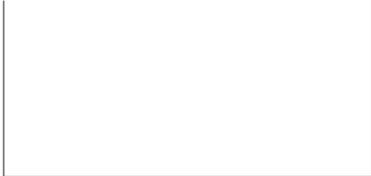


TIF DISTRICT



Appendix B

2003 Downtown Master Plan



Nashua/New Hampshire

Nashua Downtown Master Plan

Prepared by U R B A N D E S I G N A S S O C I A T E S

Prepared for
City of Nashua, New Hampshire

May 2003



Table of Contents

Acknowledgements

<i>Executive Summary</i>	I
A Vision for the Next Five Years	
<i>Site Analysis</i>	9
I X Rays	
II Precedents	
III Historic Analysis	
<i>The Planning Process</i>	18
I Overview of the Process	
II Summary of Interviews and Focus Groups	
III Urban Design Principles	
<i>Market Strategies</i>	26
I Economic Development Strategies	
II Residential Strategies	
III Retail and Entertainment Strategies	
<i>Initiative Areas and Opportunities</i>	33
I Introduction	
II Riverfront West	
III Riverfront East	
IV Railroad Square	
V Main Street North	
VI Main Street South	
<i>Frameworks</i>	71
I Streets: Access and Connectivity	
II Trails	
III Design Guidelines	
<i>Implementation</i>	90
I Phasing	

ii Costs

Appendices (under separate cover)

i Transportation

ii Market Analysis

Acknowledgements

City of Nashua

Honorable Bernard A. Streeter, Jr.
Mayor, City of Nashua

Community Development Division

Staff

Katherine E. Hersh
*Director, Community Development
Division*

Daniel R. DeSantis
Director, Office of Economic Development

Alan S. Manoian
Downtown Development Specialist

Board of Aldermen

Steven A. Bolton

Frederick Britton

Lori Cardin

Scott A. Cote

David W. Deane

Robert A. Dion

Kevin E. Gage

Paula I. Johnson

Stephen C. Liamos

Kevin McAfee

Brian S. McCarthy

Timothy B. Nickerson

Marc W. Plamondon

David Rootovich, President

James R. Tollner, Vice President

Planning Board

Scott Cote, Alternate Aldermanic Representative

Kenneth O. Dufour, Vice Chair

Steve Farkas

Betty Lasky, Chair

Mike Lowe, Mayor's Representative

Kevin McAfee, Aldermanic Representative

Claire McGrath

Hugh F. Moran

Robert Rheume, Secretary

William P. Slivinski

Honorable Bernard A. Streeter, Jr.

Eric Teitelman, City Engineer

Steering Committee

Reverend Rubero Adorno

Anne Barnett

Michael Buckley

Doreen Cafarella

Scott Cote

Gordon Daly

Clarence Frost

Ed Gagnon

Brad Hill

Barbara Jacobs

Stuart Jacobs

Mark Prolman

Consultant Team

Urban Design Associates

Glattig Jackson Kercher Anglin Lopez
Rinehart, Inc.

Stuart Patz and Associates

Special thanks to the countless Nashua residents, too many to name, who gave their time and energy to this effort.

Executive Summary



A Vision for the Next Five Years

Building upon existing investments and branching out from Main Street, Nashua will transform itself from having a notable Main Street to being a great Downtown.

Introduction

Nashua's history is its greatest amenity; it imbues the City with authenticity, character, and strength. Nashua's history is also its greatest teacher; its past teaches us powerful lessons about the importance of urban design. The Nashua Master Plan (the "Plan") strives to recognize and leverage these strengths while incorporating the needs and demands of a globally competitive 21st century city. The execution of this Plan will set Nashua apart from its regional competitors, assuring its health, vitality, and sustainability for generations to come.

Nashua New Hampshire is strategically located on the Nashua River, where water could power the textile mills. The 1823 Plan for the City, drawn by Asher Benjamin, established a remarkably powerful yet simple design concept for the City. The Olive Street Church and the Nashua Manufacturing Company were set on axis with each other, within walking distance, on opposite ends of Pearl Street. Storefronts and services for the town's people were located between these two landmarks. A longer avenue (the present Walnut Street) connected



the Mill to the “South Commons.” The first residential neighborhood was established between the South Commons and the Mill. On any given day, one could walk from the Commons, to work, to church, and to the stores lining Main Street.

The basic lessons from Benjamin’s plan were applied for nearly 100 years, until the 1960’s and 1970’s when its elegant urban design was compromised. In an attempt to save its Downtown, the City embarked on an ill-fated urban renewal program.

Throughout the 1980’s and 1990’s, thanks to grassroots organizing and one small intervention after another, Downtown re-established itself. Today, it is a generally accepted fact that Downtown Nashua has a “nice Main Street.” Sidewalks are lively, events well attended, and investment strong.

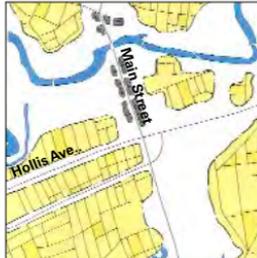
The general appearance of health however mask some problems. Behind Main Street, the many neighborhoods are fragmented and plagued by disinvestment. They are not connected physically or economically to each other or to Main Street. Furthermore, Main Street itself, south of City Hall, has been developed as a suburban commercial strip.

As one charrette participant stated: “We have a good Main Street; now we need a great Downtown.” The purpose of this Plan is to accomplish that task. It will do so by:

- 1 Celebrating Nashua’s primary amenity: Its heritage.** The clarity of

Asher Benjamin’s design has informed many aspects of this plan. Most notably, it serves as a constant reminder that great urban places encourage social interaction through a mix of uses, and that community building must be consciously designed to a human scale.

- 2 Strengthening Nashua’s most unrealized amenity: Its natural resources, especially the Nashua River.** Natural resources will act as a framework for the primary connections between neighborhoods and mixed use areas.



Downtown Today
A portion of Main Street is strong but many of the adjacent neighborhoods are fragmented and separated from this investment by busy arterial streets.



Downtown Tomorrow
Landmarks and public spaces are stitched together with trails and improved streets, thus strengthening the Downtown as a whole.

3 Representing a consensus vision for Nashua's future. The ideas and spirit of this document are a direct outgrowth of the intensity and passion Nashua's citizens have for their Downtown.

The Master Plan

The foundation of the Plan is public involvement. Extensive outreach was undertaken to insure that the Plan represents the ideas brought forth by the resi-



Concept Plan

Main Street will become a vibrant spine of mixed use activities connecting the natural resources of Salmon Creek and the Nashua River.

4



Concept Plan

Public and private initiatives along the Nashua River, Main Street, and in the neighborhoods will solidify Downtown Nashua as the heart of the region.

dents, stakeholders, investors, and leaders of the City. The public involvement process included twenty focus groups, three public meetings, and a four day public, open design charrette. In sum, over 200 individuals took part in the process.

A market study was conducted to establish the feasibility of residential and commercial markets within the five to ten-year time horizon of this Plan. The market study concluded that the residential market is, and will continue to be, Downtown's strongest market. Due to the narrow marketing and appeal of suburban housing, there is a pent up demand for a wider range of housing types and markets in Downtown Nashua, including condominiums and affordable housing. Another strong market is educational, cultural and institutional uses. These uses, though often

non-profit and sometimes subsidized, are critical to diversifying Downtown's offerings and to supporting Downtown retail. The office and hotel market were not seen as vibrant.

The market study and the public process both recommended that the City focus its efforts on initiatives that are inclusive of all residents of Nashua, not simply a narrow slice of the population. Although Main Street remains the focus of Downtown, many of the Plan's recommended actions concentrate on areas beyond the lively sidewalks of Main Street. Specifically, the Master Plan addresses areas along the Nashua River, Main Street South of City Hall, and areas to the east and west of Main Street. Design interventions at these areas are the key to broadening Downtown's appeal, maximizing its market potential,



*Riverfront North,
behind Cattleman's
Restaurant
(existing: top left)
(proposed: bottom left)*



*Aerial Perspective of
Downtown Nashua
(existing: top right)
(proposed initiatives
highlighted: bottom
right)*

and distinguishing it from other cities in the region.

Initiatives

Nashua has been successful in building on its strengths and finding ways to bring private, locally-based efforts together to create a whole that is greater than any single part. Main Street North between City Hall and the River is an example.

A vibrant Main Street has been created by

- public investments in streetscaping that improve the pedestrian experience
- private building renovations that build

upon the City's architectural character

- locally based investors and entrepreneurs willing to provide a product distinct from competing suburbs and malls.
- an aggressive and innovative schedule of events that showcase Nashua as the center of the region

Main Street North has become the anchor for a wide range of new uses that bundle restaurants, entertainment, and retail together as sustainable development in Downtown Nashua.

This Plan connects complimentary Downtown businesses and destinations



Riverfront West
Property located in the flood plain will be redeveloped into a riverfront park.

Riverfront West Existing Condition (top)



Riverfront West Proposed Redevelopment (bottom)

to create a series of initiatives around which different activities and developments are organized. Private efforts, along with public improvements and public/private partnerships have been formulated into five initiatives for the City:

- 1 Riverfront West
- 2 Riverfront East
- 3 Railroad Square
- 4 Main Street North
- 5 Main Street South

Frameworks

In order to support these five initiatives, the Plan recommends improving upon

and creating a series of frameworks that connect different parts of Downtown.

The frameworks, focusing on connectivity, are designed to:

- continually enhance the pedestrian experience on the streets of Downtown
- support and extend the system of bikeways and trails that link the areas of Downtown to each other, as well as the neighborhoods, and to the region's remarkable recreational and heritage amenities
- clarify pedestrian and vehicular circulation through an incremental process of converting one-way streets



Main Street South

New Streetscaping and redeveloped parking lots will transform Main Street South into a pedestrian friendly shopping street.

Existing Condition (top)



Proposed Redevelopment (bottom)

to two-way streets

- establish an alternative for the Broad Street Parkway that provides access to development parcels, connects the trail system, and improves congestion at Railroad Square
- create guidelines for architectural character consistent with the tradition of the City and the objectives of the Plan.

Implementation

The Plan will be implemented over 10 years. Upon completion, approximately 500 new residential units, and 500,000 new square feet of commercial/retail/office and institutional space will be added to Downtown Nashua. In addition, with construction of new riverfront parks, Performing Arts Center, Center for Nashua Heritage and Future Technology, regional and local trail connections, the Downtown will become the region's center for cultural, entertainment and recreational networks.

The primary projects to be completed within three years of adoption of this Plan will include

- Main Street South Streetscape (Design and Engineering)
- Bronstein Homes (Design and Hope VI Application)
- Broad Street Parkway (Design and Engineering)
- One Way Street Conversion Study
- Center for Nashua Heritage and Future Technology (fundraising)

Implementation of the Master Plan will create two legacies. The first legacy will be a completely revitalized Downtown with a diversified economy that benefits all residents of Nashua. Downtown Nashua will solidify itself as soul of the region,; it will become an indispensable component to the region's superior quality of life.

Equally important to the historic legacy described above, will be the legacy of new partnerships and civic cooperation that are essential to and will result from implementation of this Plan. The Plan should not be thought of as simply a way to spend public resources - rather it should be thought of as a way to form partnerships, increase investor confidence, raise capital, with the purpose of leveraging public investments.

The ideas set forth in this Plan come from the vested interests of the City's diverse body of residents and investors. The realization of these ideas rely on a coordinated, cooperative and active public sector working in tandem with a entrepreneurial private sector. The results of this private-public partnership will be a lively and vibrant Downtown for all Nashuans; a place which embodies both its history as well as the future aspirations of the region.

Site Analysis



I X-Rays

A UDA X-RAY DRAWING ALLOWS the Design team to better understand the study area, as well as illustrating for city residents and stakeholders the myriad assets and natural patterns found throughout the City. An X-Ray drawing isolates a physical element or category of land use (such as streets) to illustrate patterns and opportunities difficult to perceive when combined in a single drawing. By studying the various natural and man-made systems, urban designers can unveil the underlying patterns, problems, and opportunities of a project area. Often, from these natural, historic, and development patterns, the beginnings of strategies and solutions emerge.

UDA X-Rays are drawn at several scales. By examining the site within the context of the region, city, and immediate study area, one can begin to see the physical forces that impact and influence it. In the case of Nashua's Downtown, X-Ray drawings at the regional scale illustrate the City's strategic location within the region, while X-Rays at the site scale depict the immediate patterns of the built and natural landscape within the boundaries of the City.

The study area for the Plan is centered on Main Street but extends east and west to include the adjacent neighborhoods and cross streets— the extent of the historic and traditional Downtown.



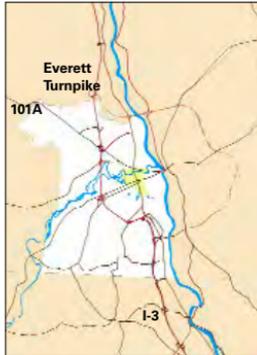
Regional Locator Map

(top left)
 Located just north of the Massachusetts state border, Nashua is the outermost major city in the Boston "commuter-shed."



Regional Natural Features

(bottom left)
 Located at the confluence of the Merrimack and Nashua rivers, the City is connected to watersheds and natural systems that reach out to the region in every direction.



Regional Highways

(top right)
 The City of Nashua is located at the convergence of several arterial roads, each well-connected to the Interstates.

Regional Streets

(bottom right)
 Main Street is one of only two surface road crossings of the Nashua River within the City. Downtown Nashua comprises a collection of colliding, irregular grids and connective arterial roads. The suburban street pattern, where most of the new growth has occurred in the last 10-20 years is distinctly different than the urban grid of the historic town.



Topography

(top left)

The Downtown gently slopes to the Nashua River from the south, with the land dropping more steeply to the river on its north side. The lowland stretching from the Nashua River to Salmon Brook represents unstable soils for development and has therefore historically been an industrial area.



Streets

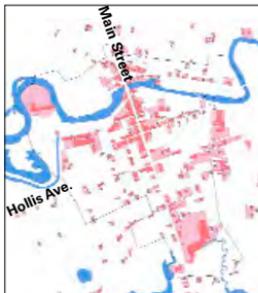
(top right)

The street framework of Downtown Nashua is comprised of several grids. South of the Nashua River, the grids are organized relative to Main Street. North of the river, the street grids respond to the several diagonal arterials that converge at Railroad Square.

Commercial

(middle left)

Main Street retail development north of Hollis Street is a relatively dense concentration of small-scale, street-oriented buildings that form pedestrian-scaled spaces. South of Hollis Street, the commercial buildings on Main Street are scaled to the automobile.



Building Footprint and Flood Plain

(middle right)

Downtown is generally comprised of medium-sized commercial buildings, small-scale residential buildings, and long, linear industrial buildings. Several of the original Nashua Manufacturing Company buildings, now converted to other uses, were originally built in the 100-year flood plain (shown in light blue)

Residential

(bottom left)

Many of the City's neighborhoods are intact; however, their edges are frayed. Nashua's neighborhoods engage neither the river, nor Main Street. .



Neighborhoods

(bottom right)

The neighborhoods of Downtown Nashua are delineated by the arterials and corridors that carry cross town traffic.

Institutions and Open Space

(top left)

The core of Downtown Nashua has many institutional buildings (purple) but no central park or public gathering space. The beginnings of a network of trails (red dots) follow the natural areas along the Nashua River and the abandoned rail line.



Parking

(bottom left)

Surface parking lots (light grey) are a dominant land use in much of Downtown. Only a few parking garages (dark grey) presently exist forcing much valuable Downtown real estate to be used as surface parking.



Industrial

(top right)

Industrial uses dominate the edges of the Nashua River and rail lines. Throughout the City, many of the former industrial uses have been converted to offices or commercial space.



Connectivity

(bottom right)

Despite having tight grids of streets and being located at the traditional center of the City, few streets extend beyond the Downtown.



II Precedents

THE BEST DESIGN SOLUTIONS emerge from the inherent patterns and vernacular of a region. Nashua is one of several Merrimack Valley river towns unique even within the greater region of which it is a part. Planned as settlements to support the textile manufacturing industry in New England in the early nineteenth century, Nashua and its sister cities along the Merrimack River are strikingly similar in their history and planning. By studying the original urban form and the redevelopment that has occurred along the Merrimack Valley as the economy and development base has changed over time, Nashua can develop strategies to root itself in its unique past while planning for an ever-changing future.

Other Merrimack Valley cities similar in both form and history to Nashua, such as Lowell, Lawrence, and Haverhill, provide precedents of exemplary spaces, development strategies, urban design approaches steeped in a similar regional flavor and industrial past.



III Historic Analysis

ALTHOUGH DANIEL ABBOTT IS WIDELY REGARDED as the “Father of Nashua,” the area of the City now known as Downtown was designed by Asher Benjamin from 1824 through 1827. Primarily known for his use of the pattern book for residential design, Nashua was Benjamin’s only foray into town planning. Benjamin originally planned Nashua as an industrial town with an area for the region’s textile manufacturing on the river, drawing power for its operation from Mine Falls located three miles west. His ideas were utilitarian and simple. A north-south main street provided a bridge across the Nashua River at its north end, leading to Union Square, a public space and railroad depot known today as Railroad Square. A cross-axis was established along Factory Street, which defined the heart of the Downtown. At one end of the Factory Street axis stood the Olive Street Church, later Pilgrim Church; and at the other end, the great smoke stack of the Nashua Manufacturing Company. These simple but powerful urban relationships remained intact for over 150 years

The Olive Street Church, Asher Benjamin’s beautiful religious structure, defined the end of a visual axis between itself and the Nashua Manufacturing Company buildings.



After World War II, the integrity of Benjamin's plan began to erode. In 1984, the Pilgrim Church was demolished. Indian Head Plaza, a 6-story office building surrounded by parking, and a small park were built on the site of the Church. One of Nashua's landmarks was lost and Benjamin's plan was weakened.

Other changes since 1960 further affected the Downtown. Streets were vacated, traffic patterns changed, buildings demolished, and parking lots built in an effort to accommodate the automobile. These measures were ineffective in saving Downtown from its slide in the 1970's. Specifically, the Bronstein Apartments, Courthouse Oval, library development and Spring/Elm Street Parking lots, although well conceived, had negative urban design consequences.

Nashua weathered the 1980's and early 1990's with studies and projects that led to important public improvements and traditions, such as the distinctive brick sidewalks. Nashua's resurgence in the late 1990's is due in no small part to a revived appreciation for the City's heritage. This was confirmed in the public outreach effort, of this study, as it

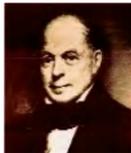
became clear there was a strong understanding and stewardship of the history and heritage of Nashua. This public awareness has manifested itself in restored buildings, civic programming and events, such as the Holiday Stroll, vintage signage on private buildings, and historically-appropriate streetscaping. These actions have re-established a contemporary authenticity to the City, have created a sense of place, and have made Downtown Nashua a regional destination

16



Benjamin's Plan for Nashua

Asber Benjamin (bottom) created a plan for Nashua where axial relationships provided focus on prominent City structures. Pearl Street was bookended by the Nashua Manufacturing Company and the Olive Street Church, (later, Pilgrim Church). The Hunt Building terminates Main Street in the north.



Appreciation for local culture, as well as a focus on the City's new technological development will be featured in the proposed Center for Nashua Heritage and Future Technology, located on Factory Street and overlooking a new river-

front park. This museum will display Nashua's unique history as the foundation on which the City can meet the challenges of the future.



Changes since 1960

- 1 Bronstein Apartments** - Street vacated for public housing
- 2 Courthouse Oval** - Streets reconfigured into a confusing one-way system
- 3 Nashua Public Library** - Park Street vacated creating a block with poor access
- 4 Spring and Elm Streets** - Many buildings demolished for parking lots

The Planning Process



I Overview of the Process

PROMPTED BY A RECOMMENDATION in the Nashua 2000 Master Plan, the city of Nashua commissioned Urban Design Associates (UDA) to prepare a Downtown Master Plan in the summer of 2002. This Plan, an update of Nashua 2000 and will be based on public input, will act as a framework for future development and decision making and will provide guidance to the City in their efforts to:

- 1 Seek and evaluate development proposals, and
- 2 Prioritize public infrastructure investments.

The UDA team consisted of Urban Design Associates (lead firm), Glatting Jackson Kercher Anglin Lopez Rinehart (transportation planning) and Stuart Patz and Associates (market analysis). In addition, the UDA team relied heavily on the technical, institutional and organizational assistance of the City's Community Development Division and Public Works Division. The views and knowledge of city staff were integral in crafting this plan. Finally, and most importantly, the team relied on spirited and enthusiastic input from Nashua's residents and stakeholders.

Citizen participation, central to the planning process, was strong. In an effort to maximize public input, the planning team cast a wide net of outreach opportunities including inter-

Public Meetings

The Master Plan Team met with the citizens of Nashua to gather input and learn of their goals and vision for the City's future.



views, focus groups meetings, public meetings and open houses, culminating in a public design charrette.

Phase One: Data Gathering and Analysis

The UDA team began the planning process with a two-day data gathering trip to Nashua in August 2002. During this visit, the team conducted focus group meetings and interviews. In addition, the UDA team photographed the Downtown, and conducted site reconnaissance in order to become familiar with the region, Nashua, and especially its Downtown. At the same time, data was collected on land use, zoning, market research, and transportation. Additionally, the team documented precedents from similar Merrimack Valley river towns. (Lowell, Lawrence, and Haverhill.)

In September 2002, the UDA team traveled to Nashua for additional meetings. The purpose of this trip was to conduct a public meeting and additional focus group meetings.

The data gathering phase resulted in

an extensive set of UDA X-Ray drawings and precedent drawings that proved instrumental throughout the process.

Phase Two : Exploring Alternatives

The second phase of the project began with a work session in UDA's office in Pittsburgh. The UDA team and the City staff met to prepare for the design charrette. One result of the work session was a set of design principles.

The majority of Phase Two occurred during a week-long design charrette conducted on Main Street in Nashua at the former Goodale's Bike Shop. During the week, the focus groups reconvened, the Steering Committee met twice, and open houses were held. Concurrent with these meetings, the UDA team developed plans, tested ideas, and continuously revised and refined designs according to ongoing stakeholder and citizen input.

Phase Two of the process culminated in a public meeting on Thursday night at which the design for Downtown Nashua were presented and additional citizen input was collected.

Phase Three: Deciding

Based upon feedback from the public meeting and the Steering Committee, and the city staff, the UDA team prepared a draft plan for review and comment. This plan, upon adoption by the City, will become the blueprint for Downtown Nashua's development over the next ten years.

II Summary of Interviews and Focus Groups

THROUGHOUT THE FALL OF 2002, the UDA team conducted interviews and focus group meetings. Focus groups included:

21

- City Planning Staff
- Nashua Historical Society
- Nashua Police Department
- Nashua Fire Rescue
- Aldermanic Planning & Economic Development Committee
- Nashua Regional Planning Commission
- Nashua Public Works Division
- The Great American Downtown
- Greater Nashua Chamber of Commerce
- Downtown Ward Aldermen
- Nashua Board of Aldermen

The UDA team also conducted individual interviews with:

- Mayor Bernard A. Streeter
- George Crombie, Director of the Public Works Division
- Pastor Paul Berube, Grace Fellowship Church
- Reverend Evans, First Congregational Church
- Anne Barnett, French Hill Resident and Member of Inner City Voice
- Grace Grogan-Hicks, Executive Director of Nashua Housing Authority
- Klaas Nijhuis, Interim Director of Community Services Division
- Angelo Marino, Manager of City Assessing Department



Design Charette
The Master Plan team worked closely with residents, stakeholders, and City staff.

Strengths, Weaknesses and Opportunities

At each focus group meeting, interview and public meeting, participants were asked the same three questions:

- 1 What are the strengths of Downtown Nashua?
- 2 What are the weaknesses of Downtown Nashua?
- 3 What is your vision for the future?

The Downtown assets considered strongest and cited most frequently related to its character character and its sense of place created by the pedestrian-friendly environment on Main Street North.

The liabilities most often identified included the confusing, local one-way street system, the disconnect between the Downtown neighborhoods and Main Street, and the development along Main Street, south of Hollis Street.

Visions included a “complete” Downtown in which neighborhoods were connected to and interwoven with Downtown retail and institutions, the development of an expanded, connective riverfront park system, the addition of cultural and entertainment facilities, and an improved public transportation system.

The strengths, weaknesses, and visions are listed in more detail on this page and the following two pages.

Strengths

History

- Heritage of Nashua as one of the first planned industrial cities in the Northeast
- The preserved and rehabilitated buildings along Main Street of historic and/or local character

Main Street

- The walkable, vibrant, and safe environment between the Nashua River and City Hall
- New investments and restaurants creating an active sidewalk and street
- Variety of uses along this spine
- Strong sense of place rooted in traditional streetscape standards
- Locally owned and operated businesses – no national franchises



Strengths and Weaknesses

Main Street North is depicted in green, representing the Downtown's historic core and its strength. Shown in red, the Downtown's main weaknesses are its underutilized riverfront and the vacuous feel and uncoordinated planning of Main Street South.

Strengths (continued)

Amenities

- Riverfront park investments
- Library is a well-organized resource center for the City
- Multitude of churches and institutions
- Transit center
- Rail trail and other developing trail connections
- Low taxes

Weaknesses

Main Street

- Brick sidewalks showing signs of wear and disrepair
- South of Hollis Street is not pedestrian-friendly
- No major entertainment, performance, or educational uses
- No hotel or meeting conference spaces

- No central park or gathering space
- A lack of modestly priced goods and services

Streets and Parking

- One-way streets are confusing and detrimental to retail development
- Parking is not well managed; excess parking on west side; shortage on east side of Main Street
- Only one river crossing

General

- Downtown neighborhoods are detached from the retail district
- Parking along the river is a blight to this natural amenity.
- Spring and Elm Streets act as service roads for Downtown parking lots
- Spring and Elm Streets separate the adjacent neighborhoods from Main Street

Strength: The Nashua Public Library

Nashua's Library is an excellent resource; however, it suffers from poor visibility and access.



Weakness: Parking behind Main Street

The areas behind Main Street suffer from blight caused by poorly designed parking lots.

Visions

- A central park or gathering place
- A major riverfront park
- Diversity of uses Downtown – educational, arts, performance and cultural
- Further diversify Main Street with housing above retail buildings
- A coordinated parking strategy
- Continued support for local businesses versus national franchises
- “Downtown” to extend south to Main Street Marketplace and Salmon Brook
- Develop gateways to Downtown and a greater sense of arrival
- Retail for all incomes
- Commuter rail to Boston
- Extensive bike and trail system
- New housing; both affordable and market rate
- Improved public transportation
- Improved and revitalized Railroad

Square

Opportunities

Several opportunity areas emerged after mapping Downtown’s strengths and weaknesses. These strategic areas are the parts of Downtown where planning and taking action is most important and where benefits will be greatest. Generally, opportunity areas offer the chance to to bolster the identified strengths, eradicate identified weaknesses, and to implement citizen visions.

The primary strategic opportunity areas were identified as: (see map below left)

- 1 The corner of Main Street and Hollis Street
- 2 The Riverfront
- 3 Main Street South between Hollis Street and Allds Street
- 4 Spring and Elm Streets
- 5 The Millyard

Opportunities

The Master Plan establishes strategic locations in Downtown Nashua where design efforts will lead to further cultural and economic development.



Property Ownership

Many of the opportunity areas are owned by just a few parties. The City of Nashua is a primary owner of parcels in the Downtown, as depicted in blue.

III Urban Design Principles

THE UDA TEAM, in conjunction with city staff, developed several urban design principles prior to the design charrette. These principles acted as a compass for the direction of the Master Plan development. Design exploration at the charrette was pursued under the guidance of the following principles:

- 1 Preserve and celebrate the history of Nashua.
- 2 Reconnect Downtown to the surrounding neighborhoods.
- 3 Create a gathering place, a common, or a village green as the center of Downtown.
- 4 Connect to the regional open space system.
- 5 Calm and clarify traffic.
- 6 Develop a parking strategy for Downtown.
- 7 Develop urban design alternatives for the transitional areas behind Main Street.
- 8 Diversify Main Street to become a mixed-use corridor - including retail, offices, government, cultural experiences, housing, medical resources, hospitality centers, and entertainment uses.
- 9 Create an interconnected pedestrian friendly network.
- 10 Develop guidelines for appropriate massing and height.



Market Strategies



I Economic Development Strategies

GREAT DOWNTOWNS ARE DIVERSE. They center a region by serving a substantial list of needs for a variety of residents. With a stable and established Main Street North, Downtown Nashua must now diversify and expand its economic base by increasing investor confidence and by serving the needs of a broader cross-section of City residents.

Downtown Nashua must also carefully market and position itself in the region. Downtown Nashua will never out-compete other market areas, such as Daniel Webster Highway and Route 101A for large-scale, discount retailers and rapid housing production. Instead of competing with these market areas, Downtown Nashua should create a lasting and unique identity for itself – an identity that cannot be replicated elsewhere in the region. Diversifying the Downtown economy by creating a “24-hour Downtown” and establishing unique markets based on sustainable strategies – not short term market trends – will be the key ingredients to a vital Downtown for years to come.

27

Downtown Retail

The continued, strategic revitalization of Main Street in its entirety, both north and south of Hollis Street, must be coordinated and is vital to the further growth of the Downtown.



II Residential Strategies

RESIDENTIAL DEMAND WILL LIKELY CONTINUE to be strong in the upcoming five to ten years. The City's population has doubled in forty years and grown approximately fifteen percent over the past ten years. Most of the residential growth has consisted of typical suburban single family housing on undeveloped land west of Everett Turnpike. The growth has served traditional suburban households (primarily married parents with school age children.) Ironically, despite the fact most of the new housing products in Nashua have catered to "traditional households", this household type represents only one quarter of the region's households. The other three quarters consist of mostly single persons living alone, single head of household with children or other dependents, or married couples with no children. These underserved markets are the household types that can be targeted for Downtown Nashua's housing.

Like many regions across the country that have funnelled their new housing construction to suburban areas, the demand for new construction housing in urban areas is very strong and relatively untapped. Thus there is strong market support for new housing in Downtown Nashua, targeted to a large market of "non-traditional" households.

Bronstein Apartments

The revitalization of this public housing area located near the heart of Downtown into a mixed-income community is a great opportunity for urban residential development.



First, there is an immediate demand for affordable housing. Downtown Nashua is the historic center of a fast-growing and affluent sub-region (consisting of Amherst, Brookline, Hollis, Hudson, Litchfield, etc.) With its plentiful supply of smaller and older homes, Downtown Nashua has experienced significant growth in the low and moderate income populations.

Second, there is an immediate demand for multi-family condominium housing in Downtown Nashua. Most of the region's low-income rental housing is in Downtown Nashua; as a result, owner-occupied housing is at a lower percentage than the rest of Nashua. The introduction of market rate condominium housing would bring stability to Downtown's housing stock and broaden the range of housing options.

The Master Plan identifies locations for affordable and market rate housing. The redevelopment of the publicly-owned Bronstein Apartments is a perfect opportunity for a mixed-income, urban development. Physically obsolete, Bronstein Apartments inefficiently and ineffectively occupies a key site in Downtown Nashua. The Master Plan proposes a redevelopment program of approximately 100 units (1/3 market-rate rental housing, 1/3 public housing, and 1/3 low income tax-credit housing). The

new development would be economically and physically integrated with the Tree Streets neighborhood and with Downtown Nashua. If the redevelopment site includes the County Health and Human Services Building, the new development can be built in phases without relocation of any of the current Bronstein Apartments' residents.

In addition the the Bronstien Homes there are other potential sites for affordable housing in Downtown Nashua. Apartment units atop first floor retail on Main Street as well as selected housing sites along Main Street South provide additional opprotunities for affordable housing.

New market rate condominium housing is also proposed in several locations. Riverfront West presents the strongest site for new housing. With ClockTower Place's conversion to housing in 1989, the first wave of "pioneers" settled in Downtown. Buildings in the Millyard and several Nashua Corporation buildings can be renovated to create unique housing opportunities in a unique urban setting. Overall, the Millyard and the Nashua Corporation buildings have the capacity to add up to 500 new units to Downtown Nashua.

III Retail and Entertainment Strategies

RETAIL DEVELOPMENT POTENTIAL IN DOWNTOWN NASHUA IS specialized and limited. Growth will depend largely upon growth in other sectors, such as housing and entertainment. Adding entertainment uses, recreational uses, regional attractions, educational uses, and other “off-hour” uses, will help sustain the existing retail demand and create critical mass for more retail opportunities.

Due to the regional concentration of discount retailers, and national chains in the suburbs, Downtown Nashua should not compete for such commercial development. Instead, Downtown Nashua should seek a competitive position in a specific retail market consisting of:

- Downtown neighborhood-serving retail
- Visitor and tourist-oriented retail
- Daytime retail supporting Downtown businesses
- Selected, specialized regional retail seeking an urban setting
- Retail serving the myriad uses proposed in the Master Plan such as performing arts, recreational, educational.

To this end, the Master Plan recommends creating a second retail node along Main Street South between Otterson Avenue and Salmon Brook Park. Anchored by the recently renovated Globe Plaza, now the Main Street Marketplace, the Main Street South retail node will complement, but not compete with Main Street North.

Retail and Entertainment

Continued infill initiatives and construction of new cultural, performance, and entertainment venues in the Downtown will provide nightlife to complement existing restaurants and attractions.



Entertainment

The Market Study concluded there is a need for better quality space to serve the existing performing arts market in the City. Currently, Nashua-area performance and arts groups are using several local facilities scattered around the City. In addition, there is a potential for a Downtown Performing Arts Center to compete for a regional performing arts market that is not currently attracted to the area. The market study recommends a new 400 to 500 seat Performing Arts Facility in downtown Nashua to be developed in the short term to meet the needs of arts groups attracting smaller audiences.

A larger facility (800-1000 seats) is not recommended because it will compete directly with several recently built, high quality facilities in surrounding communities. Construction of such a facility is significantly more expensive than a 400-seat venue, is dependent on touring acts, would be in direct competition with facilities in nearby cities, and perhaps most significant, is not needed for performing arts groups currently operating in Nashua, with the exception of the Nashua Symphony.

The Master Plan recommends 14 Court Street for development of the Performing Arts Center. The site will accommodate the recommended 400-

500 seat theatre (or a 1000-seat venue if the market changes in the next few years.)

Hotel

The Market Study concluded there is not currently a strong market for a hotel in Downtown Nashua due to lack of major room-night generators. The overall Nashua hotel market is currently soft because business travel is flat. Demand for a hotel will not likely emerge for at least three to five years.

The Market Study recommends long-term planning for a 75-room, limited service hotel that would serve the needs of business and leisure travelers to the Nashua area who prefer competitively-priced hotel accommodations located near Downtown restaurants and



The proposed hotel site is located adjacent to the Performing Arts Center and along the Nashua River.

shops, to rooms located along the Interstate. The Downtown hotel would be ideally located for parents visiting students attending Rivier College, for example, as well as for travelers visiting the Southern New Hampshire Medical Center. The proposed hotel and proposed Performing Arts Center could have a mutually beneficial relationship, as touring performers could stay at the hotel and weekend “get-away” cultural packages could be offered, linking Downtown restaurants, events at the Performing Arts Center, and hotel rooms. The suggested hotel concept would be an attractive, 4-to-5 story building with 70 to 75 standard guest rooms, a few suites, a boardroom, and an exercise room.

Initiative Areas and Opportunities



I Introduction

THE MASTER PLAN RELIES ON A BUNDLE of strategies that work together to knit Nashua's Downtown into a single, cohesive whole. These strategies, in the form of five initiatives (see map below), build upon the strengths and alleviate the weaknesses of the Downtown. Together, these five initiatives will help Downtown transform itself from a good Main Street to a great Downtown. These strategies are illustrated and described in the following five chapters.

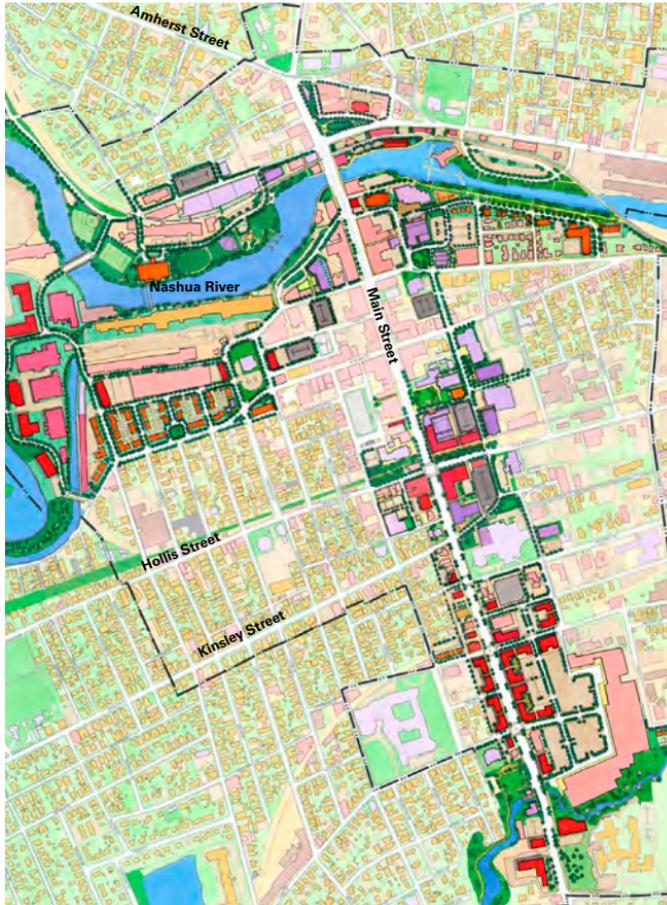
To be successful, it is imperative that the streets, parks and other public infrastructure be improved simultaneously with the development proposed in each initiative area.

Initiative areas



Master Plan

The Master Plan is comprised of many initiatives throughout Downtown. Implementation will help transform Downtown from a good Main Street to a great Downtown.



II Riverfront West

THE TERM "RIVERFRONT WEST" DOES NOT currently exist in the 36 everyday language of Nashua residents. Historically, the Nashua River was both the engine and the sewer for industry. Only in recent years has the City begun to look at its rivers and riverfronts as opportunities for non-industrial, private investment and more importantly, for "quality of life" public investments in parks.

With only one river crossing and the historic pattern of "backing buildings onto" the river, the two sides of the Nashua River have always been viewed as separate places. The Riverfront initiatives seek to develop the river as the connector for a



Riverfront West



single, mixed-use community.

In order to harness the power of the river to drive the Mill's turbines, many of Nashua's oldest industrial buildings were located in the flood plain. Those that have been redeveloped have sealed off their lower floors to protect against flooding. Building new, habitable buildings in the flood plain is not feasible.

Therefore, the Master Plan uses the flood plain delineation for guidance as to where buildings can and cannot be located. A riverfront park becomes the "highest and best use" for the flood plain. This proposed riverfront park will become one of Nashua's most valuable investments.



Initiatives

- A** Riverfront West Park
- B** Nashua Corporation Buildings
- C** Broad Street Parkway
- D** Redeveloped Millyard
- E** Redeveloped Bronstein Apartments
- F** Reconfigured Courthouse Oval
- G** The Center for Nashua Heritage and Future Technology



Flood Plain

Many of the buildings in the proposed Riverfront West area are located in the flood plain (shown in light blue).

Riverfront West Park

Much of the land on the north bank of the Nashua River is in the flood plain. These parcels of land can become the jewel and center of Nashua's riverfront park system. The park should include both active and passive uses, including play fields and an outdoor amphitheater. All new development in the flood plain are event oriented structures not subject

to flood plain regulations for habitable structures. Front Street will become a park drive and the new front door to fully redeveloped Nashua Corporation buildings. The regional trail system should be incorporated in the park.

On the south bank of the river, Le Parc de Notre Renaissance Francaise should be improved. The Water Street ramp currently looms over this park,



Riverfront West Park

(top)
The flood plain will be converted into the City's largest Downtown open space, as well as being connected to the greater regional park system.



Clock tower Place

(middle)
Renovating more industrial buildings, like Clock tower Place, will enliven this area of Downtown with new residents.



Water Street Ramp

Le Parc de Notre Renaissance Francaise can be improved by eliminating one row of parking (existing, bottom left) and creating a screen of landscape (proposed, bottom right).

detracting from its beauty. A row of perpendicular parking should be removed and replaced with a row of parallel parking in order to provide a planting strip to mask the base of the ramp.

Redevelopment of Nashua Corporation Property and Buildings

Further adaptive reuse of the historic Nashua Corporation buildings will require improved access and replacement parking. The Master Plan proposes extending Front Street as a park drive for the new Riverfront West Park which will allow the Nashua Corporation buildings to reorient themselves to the river, taking advantage of a new park address.

The Master Plan also identifies four optional locations for a parking garage serving the former Nashua Corporation. The preferred location is adjacent to the Nashua Corporation buildings, across Franklin Street. This parking garage could be shared with businesses at Railroad Square and adjacent to the Main Street bridge.

All four sites for the parking garage should be more thoroughly studied by

the City. The garage must achieve the following objectives:

- facilitate redevelopment of Nashua Corporation buildings
- accommodate parking needs of businesses at Railroad Square
- introduce minimal negative impacts on surrounding neighborhoods
- have multiple access and egress points
- minimize the negative impact on Railroad Square traffic flow
- minimize property acquisition, especially that of affordable housing.

Broad Street Parkway

Directly serving this area of Downtown, the Broad Street Parkway must fulfill a number of needs:

- provide access to important redevelopment sites
- become a development address
- address issues of air quality by improving traffic congestion at Railroad Square
- serve as a framework for a trail con-



Four potential sites for parking garage

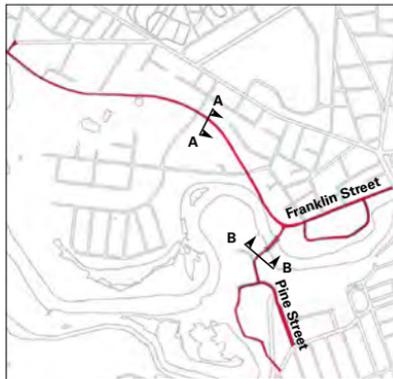
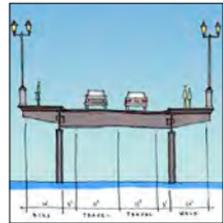
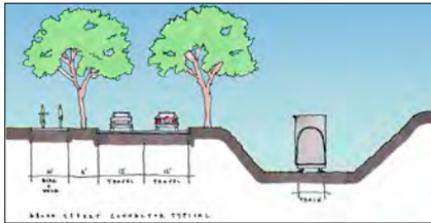
nctions

- not a Downtown bypass

The Master Plan recommends the Broad Street Parkway connect to Franklin Street as well as the Milliard. This alignment will route through-traffic directly across Railroad Square, thereby alleviating the cumbersome dogleg movement that currently exists.

In addition, and equally important, the Broad Street Parkway will have a small, two-lane bridge providing direct access to the Milliard. The bridge connection will link into an extension of Pine Street which in turn will provide access to Downtown via Central Street. This bridge connection will also provide a trail crossing from one side of the Nashua River to the other. (Additional

40



Broad Street Parkway

The preferred alternative for the Broad Street Parkway (left) will provide access to redevelopment opportunities, as well as reduce congestion at Railroad Square.

Recommended cross-section (section A-A) (top left)

Recommended cross-section at the new bridge (section B-B) (top right)

discussion of the Broad Street Parkway is located in the Transportation Appendix.)

Bronstein Apartments

Currently an inward facing public housing project, the Master Plan proposes a transformation of the 48 units of public housing into a 100-unit, mixed-income, mixed-financed neighborhood. The orientation and condition of the existing units are such that rehabilitation or modernization will provide only marginal improvements in the quality of life.

The Master Plan proposes extending Palm Street, Ash Street, Vine Street, and Chestnut Street through the Bronstein site to an extended Myrtle Street. Four simple, developable blocks are thus created for medium-density housing. The County Health and Human Services building would be moved from its current location, and the block would be used for additional housing, providing a new front door to this Downtown site. A small park, central to the new housing would be built which would be an amenity for the Tree Streets Neighbor-

hood linking the new housing to the existing neighborhood. The redevelopment of Bronstein Apartments could be phased and implemented without relocating any of the existing residents.

Millyard Redevelopment

The Millyard represents one of Downtown's most promising redevelopment possibilities. The Millyard possesses a rich mix of industrial buildings and proximity to urban amenities. It is a prime location to create living-wage jobs along with loft housing and live/work units.

In addition to rehabilitating the existing structures, several sites have been identified for new construction. The extension of Pine Street and a new loop



Bronstein Apartments
Illustrative Plan of Bronstein Apartments (top)



Proposed view of the redeveloped Bronstein Apartments along Central Street (bottom)

road will access these sites and create a connection to Mine Falls Park. Redevelopment of the Millyard will create multiple trail connections between Main Street and Mine Falls Park.

Courthouse Oval and Other Street Improvements

The Master Plan recommends several simple but important changes to the street system. The original Plan for Nashua, established by Asher Benjamin between 1824 and 1827, created a strong relationship between the Millyard and Main Street. Factory and Pearl Streets connected the two areas of Downtown.

Over time, however, that relationship has eroded. One-way streets, traffic ovals, and inward-facing development have all but rendered the Millyards and Main Street as separate districts.

The Master Plan seeks to re-establish this direct relationship with revised street connections and modifications. Most importantly, the traffic oval around the County Courthouse should be removed and replaced with two-way streets. Two additional development sites are identified, as well, east and west of the current Courthouse.

Central Street, Pearl Street, and Factory Street should also be converted to two-way streets. (Additional discussion of one-way street conversion is found in the Frameworks section and the Transportation Appendix).

The Center for Nashua Heritage and Future Technology

The Center for Nashua Heritage and Future Technology is proposed along Factory Street. This 40,000 sq..ft. museum and learning center will become



Illustrative Plan of Millyard redevelopment; new buildings in dark red (far left)

The Center for Nashua Heritage and Future Technology, in purple (left)

a major attraction for Nashua. The museum will showcase Nashua's strong industrial heritage as well as provide interactive areas for learning the new technologies being developed in the Region. The recommended site, between Factory and Water Street, is a strategic Downtown site perfect for this facility. Located less than a block from Main Street, the museum and learning center will have a Main Street presence without occupying valuable Main Street retail frontage. The building will face both Factory Street and Water Street. Its front on Factory Street will help re-establish Benjamin's historic axial relationship that once existed between the Olive Street

Church and the Millyard.

The facility will benefit from an existing parking garage located directly across Factory Street. An additional level may need to be added to this garage to accommodate museum visitors as well as to absorb the loss of parking that currently exists on the proposed museum site.

As a "through-block" building, the museum should provide in its design open, public access between Water Street and Factory Street. Another access point between Le Parc de Notre Renaissance Francaise and Factory Street will further aid pedestrian circulation.

43



Existing Park: Le Parc de Notre Renaissance Francaise and Nashua River (top)



Proposed Riverfront West Park on the north bank of the Nashua River (bottom)

III Riverfront East

RIVERFRONT EAST PRESENTS A DIFFERENT experience and opportunity than Riverfront West. The riverbanks are steeper, and the river is more narrow. The crashing waterfall of Riverfront East contrasts with the tranquility of the wetland pockets at Riverfront West.

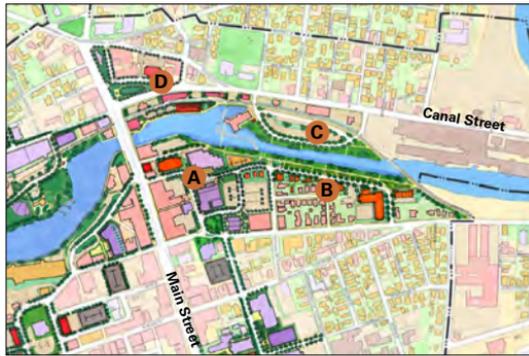


Riverfront East



There are, however, similarities. Like Riverfront West, Riverfront East is proposed to become a single place on both sides of the river with the river as the focus. The current trails are discontinuous, inaccessible, and perceived as dangerous. Many of the buildings back onto the river with parking lots, service alleys, and backyards.

45

**Initiatives**

- A** Library and Performing Arts Center
- B** New Temple Street neighborhood housing and Riverfront Park
- C** Riverfront East Park
- D** Railroad Square revitalization

Riverfront East Park

A new riverfront park is proposed along both sides of the river. The park will be narrow and linear. It will be active with trails but not with recreation areas. The dam and the railroad bridge should be developed with pedestrian and bike trails. The trail on the south side of the Nashua River should be improved with additional connections to an extended Park Street and selective clearing of trees and shrubbery.

The large parking lot between Canal Street and the Nashua River should be improved to be more appropriate for a riverfront and park setting. A parking lot will remain for BAE Systems and other businesses along Canal Street and Railroad Square. A pedestrian bridge built atop the existing dam would connect this parking resource to the south side of the River - particularly to the proposed Performing Art Center at 14 Court Street. The parking lot could be shared by park users on weekends. A trail head for the



Illustrative Plan of Riverfront East Park (top)



Existing section of north bank of Nashua River (middle)



Proposed section of north bank of Nashua River (bottom)

park system and regional trail system should be developed at this location.

The rail right-of-way along the north side of the Nashua River can be utilized for a trail connection between the bridge and Riverfront West park, but can also be used as a connection between Railroad Square and a future commuter rail station, proposed to be located in the vicinity of East Hollis Street near the Merrimack River. This rail line is currently active (with extremely light use) providing rail access to towns west of Nashua. redevelopment of the rail line and areas around the rail line would have to be consistent with continued use of the rail line.

Nashua Public Library and The Performing Arts Center

The Nashua Public Library is a valuable resource for the City. It is the most active library in northern New England. As an important cultural resource, however, it suffers from inaccessibility and a lack of defined parking. The Master Plan proposes an extension of Park Street between 14 Court Street and the Library along the riverfront to Temple Street. This new road will provide a common front door and entry sequence for both the Library and 14 Court Street, at the terminus of the Spring Street Institutional and Cultural Spine.

14 Court Street should be redeveloped as the proposed Performing Arts Center. Whereas there are no high quality facilities for Performing Arts in Nashua, the nearby cities of Portsmouth,

Keene, and Manchester have quality venues for audiences of approximately 850.

There is a market in Nashua for a 400 seat facility. However this size could increase anywhere from 400 to 1000 seats if justified by the market, community interest, funding, and the needs of performance groups within the City.

The construction of a facility of this size was analyzed in depth in a previous Performing Arts Feasibility Study. The issues surrounding this cultural development are discussed in the Market Study Appendix of this report. The 14 Court Street location for the Performing Arts Center is recommended by both the previous study and this Master Plan, however, is agreed upon between the Feasibility Study and this Master Plan, as an appropriately prominent site within walking distance of Main Street.

Parking resources will need to be created for a new Performing Arts Center.



Illustrative Plan of the proposed street and plaza between the Performing Arts Center and Nashua Public Library

A new parking garage may have to be built to support this facility. A site along Spring Street, just south of Temple Street, is recommended. The BAE Systems parking lot, located on the north side of the river should be considered a parking resource for the Performing Arts Center. If the dam structure is modified to contain a pedestrian walk, the BAE Parking lot will be less than a five minute walk from the Performing Art Center.

Temple Street Neighborhood

The Temple Street neighborhood should be extended to include new housing along an extended Park Street. The new housing would overlook the Riverfront East trail and park. As Park Street is extended along the river to Temple Street, a site for a new 100-unit senior/elderly building is proposed. Creating a new riverfront drive will be a great new address and will be an important component to improving visibility and visitability to the park.



Illustrative plan of Riverfront East (top)

Existing section of south bank of Nashua River (middle)

Proposed section of south bank of Nashua River (bottom)





Existing rail right of way behind Cattleman's (top) 49

Proposed rail right of way, redevelopment and trail connection (bottom)



IV Railroad Square

RAILROAD SQUARE IS AN urban design landmark located at the confluence of four regional arterials. With four high-volume arterials converging into a small area bound on one side by water, Railroad Square performs admirably, as it delicately balances the heavy impacts of regional through-traffic on all four arterials with an environment that is surprisingly pedestrian-friendly. The challenge of Railroad Square will be to establish it as Main Street's northernmost retail node, while maintaining its status as an historic pedestrian-friendly place.



Railroad Square



Development Opportunities

Most of the buildings on Railroad Square are worthy of preservation. While several buildings may be renovated, one site is identified for new construction. It is important that new construction as well as renovation adhere to strict architectural design guidelines, based on Nashua's historic architectural traditions.

The most important renovation project will be the Laton Hotel. Specifically, the striking double-level porch should be restored.

In order for Railroad Square to realize its potential as Main Street's northernmost retail node, additional parking resources will be required. The Master Plan identifies four possible locations for parking structures that could serve the businesses at Railroad Square, as well as other uses.

Veterans Park

If a new parking structure is built for Railroad Square businesses, the parking lot defining the north edge of Deschene's should be rebuilt as a through lane with on-street parking. It should be built as narrow as possible to discourage cut-through traffic, yet define the park more clearly and publicly.

Laton Hotel

The full front porch of the Laton Hotel should be restored to its original elegance.



Riverfront West and Railroad Square Parking

Four potential sites for a parking structure are identified (as dotted boxes). The structure must serve both the redevelopment of the Nashua Corporation buildings, as well as Railroad Square.



v Main Street North

MAIN STREET NORTH is healthy. Also referred to as “walking Main Street”, there are almost no retail vacancies, sidewalks are active, and there is a vibrant mix of retail, offices and restaurants. Behind Main Street on both sides, however, significant attention is required. The seam between the neighborhoods and Main Street North is ragged. Spring Street and Elm Street are characterized by disinvestment, surface parking lots, and unpaired and confusing one-way streets.

52



Main Street North





Main Street North

- A** *Main Street North Streetscaping*
- B** *Relocation of Joanne's Kitchen*
- C** *Spring Street Institutional Spine*
- D** *Citizen's Bank site*
- E** *New Nasbua Commons*
- F** *SENHMC expansion*
- G** *Redevelopment of existing buildings*



Streetscaping

Maintenance and upgrades to the streetscape of Main Street is critical. Begun in the early 1980's, the streetscape program has been a great success. The comfortably wide sidewalks, warm red bricks, and the canopy of street trees create a pedestrian environment that has been instrumental in Main Street's resurgence over the past 15 years. However,



Main Street North

some sidewalk bricks have been dislodged and many of the street furnishings are either historically inappropriate, poorly located, or in general disrepair.

Basic upkeep and selective improvements to the streetscape on Main Street North are as critical today as the introduction of these standards 20 years ago. If the public sector falls behind in its responsibility, the private sector will not

re-invest. The Master Plan therefore recommends pursuing a responsible maintenance and upgrade program for streetscaping on Main Street North as an early action item for the City. At a minimum, “responsible maintenance” should include annual inspection of sidewalk

conditions following the spring thaw and immediate replacement of damaged pavers. In addition, the City should consider utilizing a more delicate sidewalk sweeper, one that does not damage the pavers as it cleans them.

Benches

Several benches along Main Street are poorly located. Benches that face traffic or are located in the middle of sidewalks are rarely used. Where possible, benches should either be paired, facing each other, or they should be located with their backs to storefronts.



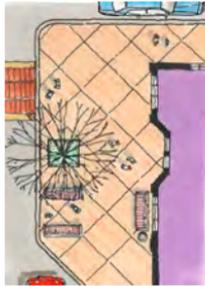
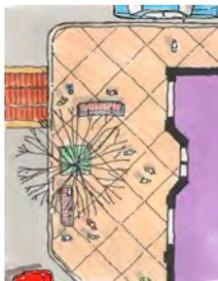
Pavers and grates on Main Street in need of replacement



Diagrams

Inappropriate bench location (below left)

Appropriate bench location (below right)



Pedestrian Connectivity

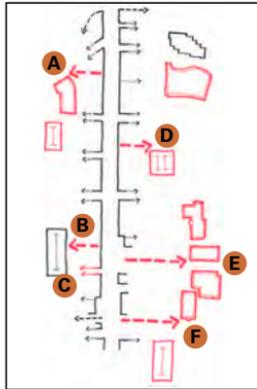
The Library Walk is a great success. It provides pedestrian access through Nashua's long blocks to destinations located one block behind Main Street. More such connections are required in order to connect and stimulate investment along Spring and Elm Streets.

The Master Plan recommends creating five additional through-block pedestrian connections: two on the interior of buildings, and three exterior. The exterior pedestrian paths should be public, well-lit, and modeled after the successful Library Walk. The interior paths require partnerships with private building owners. They should be integrated with the interior circulation through a lobby or public corridor.

Hollis and Main Street Intersection: The Region's 100% Corner

There is no more important intersection to redevelop in Nashua than the intersection of Hollis and Main Streets. The intersection is the region's "100% corner," as it creates gateways to Main Street from the east and west and south.

All four corners of this intersection are currently underutilized and underperforming. In a City with limited available land and relatively low-scale buildings, three of the four corners present opportunities to add significant square footage to the Downtown inventory of office, retail, institutional, and cultural space without creating an inappropriately sized building. Downtown's largest new buildings should be sited at



- A** Through an existing building
- B** In place of the relocated Joanne's Kitchen
- C** A new lane beside relocated parking
- D** Along side of the church
- E** Through new Downtown common
- F** An extension of the rail trail

55

New Pedestrian Connections

Several new pedestrian connections (similar to Library Walk and shown in red) should be created to improve the permeability of Main Street's long blocks.



this intersection. A series of distinct, 4- to 6-story, mixed-use buildings would create a center to the Downtown. They would anchor both ends of Main Street by creating a strong center, and transform an anonymous intersection into the region's symbolic heart.

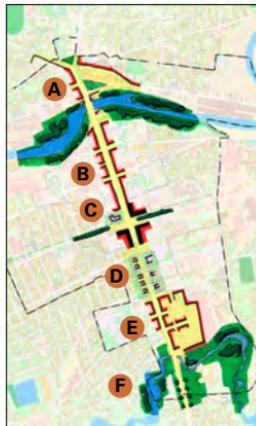
Citizen's Bank Site

The most important site at Nashua's 100% intersection is the northeast corner of Hollis and Main Streets - commonly referred to as the Citizen's Bank site. This site has an address on two of the busiest arterials in Nashua (Main Street and Hollis) and is a gateway to the Downtown. Additionally, with the Main Street Marketplace under reconstruction, it is the largest remaining developable site fronting Main Street. The long term redevelopment of the Citizen's Bank site must establish the standard for all other development in Nashua because it is a front door to the region. It should leave a positive legacy for years to come.

Hollis and Main Street: The region's 100% Corner



In December 2002, Citizen's Bank secured approval for plans to build a single story bank with drive through facilities. This building should be considered an interim solution for this important



Main Street as a Series of Rooms

The entire length of Main Street should be designed as a series of rooms and experiences, not as a single monolithic avenue.

- A** Railroad Square
- B** Main Street North
- C** 100% Corner: Hollis Main Street Intersection
- D** Transitional area: Hollis to Otterson Streets
- E** Secondary retail node: Main Street marketplace
- F** Southern Gateway: Salmon Brook



The intersection of Hollis and Main Streets as it exists today: an under-developed intersection dominated by high volumes of through traffic.

site. When market forces dictate redevelopment of the site, the City should partner with Citizen's bank to create a legacy project.

The public outreach process and the market study both conclude that this site would be best developed as a mix of uses, including a ground floor bank, and anchored by an institutional use such as a downtown campus for an area college. Such a use would bring a diverse group of people into the area at all hours, enforcing the desire of developing Nashua as a "24-hour city".

As an educational building, classrooms would occupy the upper floors of the buildings with Main Street retail at the ground level. This configuration allows for active, pedestrian-oriented uses on the street to add to the already healthy street-life on Main Street North. Also, providing for retail uses on the ground level allows for businesses and restaurants to be open and active after office hours.

The site north of the Citizen's Bank site can also be integrated into an

amenity for Main Street. The potential relocation of Saint Patrick's gymnasium to Spring Street provides a proper civic greenspace for the City of Nashua. The desire for outdoor, public space is great in the City, and this resource would provide a new "Commons" for Nashua.

Southeast Corner of Hollis Street and Main Street

To truly create a 100% corner at Hollis and Main, the southeast corner of the intersection should also be a redevelopment opportunity. At present, this site houses a service station, a drugstore, a few miscellaneous businesses and restaurants, and surface parking for Southeast New Hampshire Medical Center (SENHMC). Constitution Plaza occupies the other corner of the site, that of Main and Kinsley Streets, though few would know it is there amidst the uncoordinated land uses. The proposed building configurations will not only define the corner of Hollis and Main Streets as a gateway, but with ground floor retail uses they will encourage pedestrian-oriented street-life.



*Citizen's Bank Site,
Short Term Vision: A
bank with a drive
through facility. (left)*

*Citizen's Bank Site,
Long Term Vision:
Redevelopment as an
Educational Complex
with ground floor retail
and Main Street
Commons (right)*

The proposed buildings would have retail businesses at street level with offices above. The offices could be used by the hospital, or physicians offices, or other businesses seeking office space in the heart of Downtown.

At the easternmost part of the block, a parking garage is proposed to accommodate current parking needs for SENHMC as well as addressing parking requirements of other uses on the block. And most importantly, Constitution Plaza will be surrounded by public uses to provide a more defined, proper environment for community gathering.

Parking Strategy

Easy access to parking was identified by many as a problem in Downtown Nashua. Currently, there are approximately 3,500 parking spaces and 850,000 square feet of retail/office/commercial space in Downtown. This is over 4 spaces per 1000 square feet - a more than adequate supply for an downtown that aspires to be pedestrian friendly, mixed use, dense and urban so supply is not the problem.



Illustrative Plan of a redeveloped Hollis and Main Street intersection

Analysis and public testimony support the fact that there is not a shortage of parking, but rather that the existing parking supply is not well-managed, coordinated or visible. Therefore, simply providing more parking would not only fail to solve the parking problem, but it would conceivably create additional problems in Downtown.

Parking issues should be addressed on two fronts. First, the current parking resources should be better organized and managed. Second, new parking should be carefully and selectively added to proper

Existing conditions at Hollis Street and Main Street



Proposed redevelopment of Hollis Street and Main Street



locations when it is needed. Determination of need should consider issues such as the deleterious effect of excess parking, the potential impacts on surrounding properties, and the need to create a dense unique urban environment for Downtown.

Parking Management

Currently the 3,500 parking spaces downtown are scattered throughout downtown in private and public lots, large and small lots, metered and free lots, on streets, and in public and private structures. Existing parking resources must be more effectively managed. This should be a priority, initially, over building more spaces.

As an inexpensive first step, the City should implement a wayfinding and signage system to help visitors to Downtown have better access to the City's parking supply. In addition, parking lots and sidewalks should be designed with comfortable pathways, trees, and lighting in order to maximize their use.

A second step should be to organize and manage the current parking space - both public and private. Metered spaces should be used for short-term parking. They should be the most expensive cost to park per hour, and have a limit of two hours. Because they are the most accessible and important to retail, the metered spaces should encourage a high turnover of users.

The parking garages should be used by employees and for longer-term parking. Upper floors of garages, the least

convenient spaces, should be reserved for employees who park all day. They can be leased out to business owners, thereby freeing up their on-site spaces and street spaces for customers. Lower levels of garages should be used for both long term and short term parking.

Shared Parking and Partnerships

The City should enter into discussions with owners of large parking lots and parking structures (SENHMC, BAE Systems, Indian Head Plaza, etc) in order to allow these facilities to be used at "non peak" times.

For example, the Performing Arts Center (PAC) may require very little new parking if the unused evening capacity of the BAE parking lot (connected to the PAC with a walkway atop the dam) and the Indian Head Plaza are utilized. Both are within a five minute walk of the proposed PAC.

Surface Parking

Limited surface parking located on street or in small lots is important for retailers in Downtown Nashua. The spaces are easy to use, have a rapid turnover, and are readily accessible in small lots, behind buildings or mid-block. They lots should be well-designed and have clear pedestrian connections to sidewalks and paths.

Many of downtown Nashua's parking spaces are scattered throughout the downtown in small and large lots. The dozens of small parking lots provide an efficiency and efficacy that belies their size. Many smaller lots, tucked away and

behind buildings, are more effective and efficient than fewer larger lots, but the location and availability may be difficult to discern for visitors.

On-street parking should be introduced wherever possible. If peak hour traffic flow is an issue, parking can be prohibited during rush hours. Cars parked on the street provide convenient short-term parking as well as acting as a traffic calming barrier between cars and pedestrians.

Parking Garages

No new parking garages are immediately needed. There is adequate parking to serve today's inventory of occupied commercial/office/retail space as well as to absorb the current vacancies (approx-

mately 200,000 sq.-ft. of commercial/office/retail space). However, implementation of the Master Plan will further intensify downtown uses and necessitate the conversion of some surface lots to structured lots. The Master Plan proposes five potential sites for parking garages. These new parking garages, combined with the three existing garages will adequately serve downtown upon build-out. The proposed locations will correspond with places where there is a current parking deficit, or where new development will generate future parking demand. With two garages currently located on the west side of Main Street, priority should be given to a new structure on the east side of Main Street. Any new parking facility should be matched with a private sector initiative. Parking should be shared to balance the daytime and evening uses.

Spring Street Institutional Spine

The Master Plan proposes Spring Street as an institutional spine. Currently several public buildings are located along Spring Street. However, they are not connected to each other or related to Main Street or the neighborhoods.

Parking Strategy

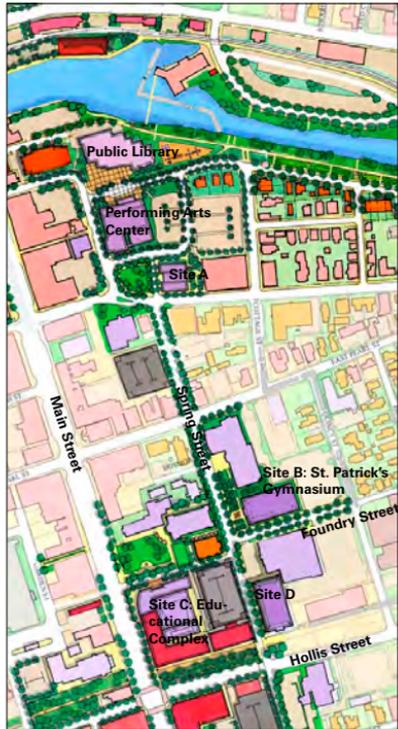
Upon completion of the proposed garages, the Downtown core will be well served with parking, as denoted by five minute walking radii. (left)

A well-defined parking lot in the heart of Lowell, Massachusetts illustrates that small, surface parking areas can be tucked in and around buildings and landscaped creating a pleasant street wall. (right)



A streetscaping program will create an appropriate setting for the five public buildings located on Spring Street.

Also, four additional sites along Spring Street have been identified for public buildings. One of the sites could be used for the relocation of Saint Patrick's Gymnasium from Main Street. Moving the gymnasium to this site maintains the facility's adjacency to the parish but rebuilds it on a more appropriate site and frees up the Main Street site for a town green, or Commons.



Spring Street
Institutional Spine
 Anchored on the north by the Performing Arts Center, an improved Spring Street is an ideal address for civic and public buildings.

VI Main Street South

MAIN STREET SOUTH – or “Driving Main Street” – stands in sharp contrast to Main Street North or “Walking Main Street.” Main Street South has an exceedingly wide road, a large number of auto-dependent uses, and the absence of an intact historic fabric. Historically, Main Street South was residential, not commercial. However, over time, as traffic volumes increased, Downtown commercial uses grew south towards Salmon Brook. A few grand houses and apartment buildings still exist; however, most have been demolished. Main Street South was formerly identified by Salmon Brook and its wetlands. However, the wetlands have since been filled and the stream was covered and culverted by the Globe Plaza (now Main Street Marketplace) in the 1960’s.

62

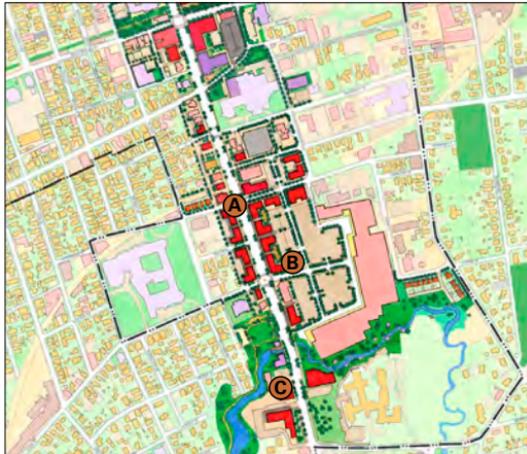


Main Street South



Main Street South can become an important part of the overall Downtown experience, its retail strategy, and its circulation and park system. The half-mile length of Main Street South should be developed as a series of spatial experi-

ences varying one's perception of the long straight road, not as a single monolithic avenue. The initiatives contained in the following pages develop Main Street South as a progression of unique places with a mix of uses.



Main Street South

A Streetscape program

B Redevelopment sites

C Salmon Brook Park

Streetscape Program

The Master Plan recommends the City undertake a comprehensive streetscape and road improvement program for Main Street between Hollis Street and Allds Street. Creating a high quality pedestrian environment does not require major traffic flow modifications. The Master Plan proposes preserving the cur-

rent lane configuration. The moving and turning lanes that exist today, will remain. However, the curb should be moved east or west 8' to create on-street parking lanes wherever possible. The parking would be set between bulb-outs at the corners in order to minimize the pedestrian crossing distance of Main Street. Easements or acquisition of prop-



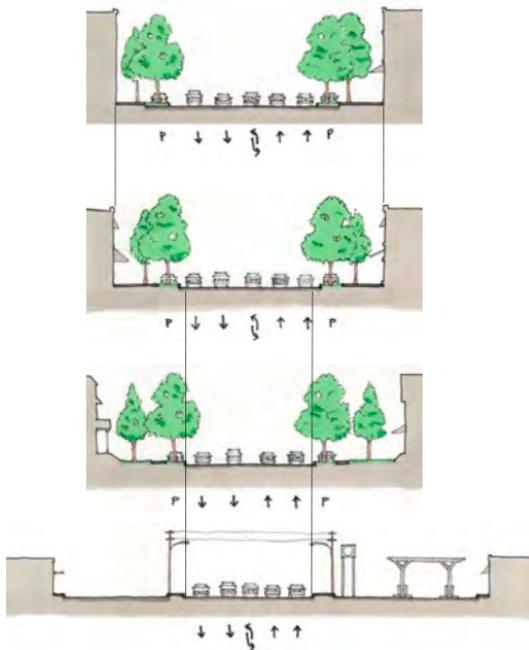
Main Street South
Existing (left)

Proposed (right)

erty would be required in front of most properties to create sidewalks and a planting zone. Buildings between Otterson and Hollis should be set back approximately 15' the sidewalk to preserve the residential/institutional fabric. Buildings between Otterson and Salmon Brook should be built to the sidewalk.

The streetscaping program will improve the overall pedestrian and vehi-

cular experience of Main Street South. A new streetscape program should locate utilities underground in accessible trenches. In addition, the streetscape should provide generous street trees, low level pedestrian scaled lighting, high level street lighting, textured (possibly brick, extended from Main Street North) sidewalks and crosswalks. The streetscape should be designed to calm traffic by cre-



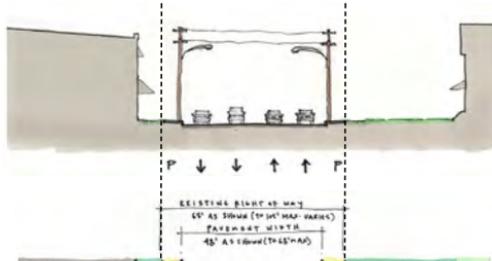
Street Sections

Existing Main Street North, between Hollis Street and the Nashua River (top)

Proposed Section for Main Street South between Salmon Brook and Otterson Street (second)

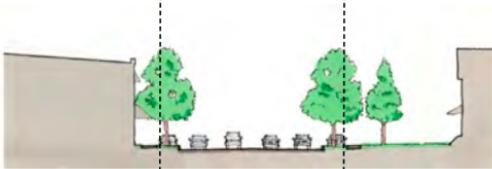
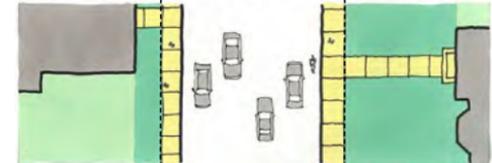
Proposed Section for Main Street South between Hollis Street and Otterson Street (third)

Existing Section of Main Street South between Otterson and Salmon Brook (bottom)



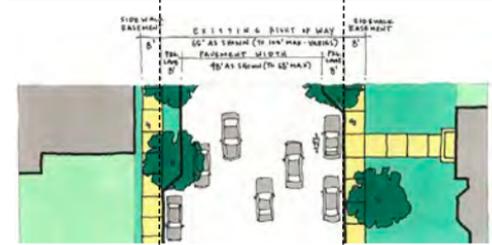
Existing Conditions of Main Street South:

Sidewalks are located directly adjacent to moving lanes of traffic. The lack of street trees and presence of overhead utilities creates a dangerous and unattractive pedestrian environment. (top two images)



Proposed Plan and Section for Main Street South:

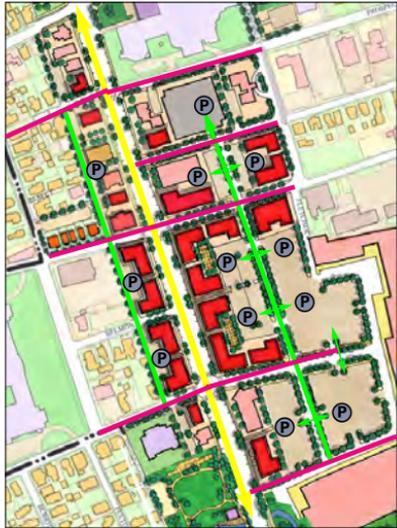
The moving lanes of traffic remain unchanged. Parking bays are created, street trees are planted. A new sidewalk is constructed on private property. No building demolition is required. (bottom two images)



ating visual interest and subtle cues to drivers that Main Street is an environment that balances the needs of automobiles and pedestrians. All street furnishings (benches, light poles, trash receptacles) should be coordinated through a carefully selected palate of materials and colors.

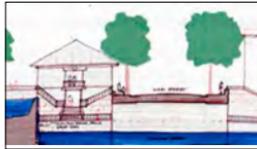
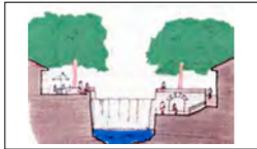
Circulation and Parking

The Master Plan recommends improved commercial circulation by creating rear lanes to access most of the properties along Main Street and installing traffic signals at key cross streets. The rear lanes will provide parallel access to Main Street. Traffic destined for establishments on Main Street South will access the properties at controlled intersections and rear lanes as opposed to via curb cuts directly on Main Street. In addition, a rear lane allows local traffic travelling from one establishment to another on



Circulation and Parking

Regional through traffic on Main Street (shown in yellow) will be aided by the reduction of local traffic and curb cuts from Main Street. The network of cross streets (shown in magenta) and parallel lanes (shown in green) provide local access to parking and service.



Salmon Brook Park 68

*Section A:
Section across Salmon Brook: dam and turbine are restored as an historic industrial remnant and public sculpture. (top left)*

*Section B
Section through Main Street: a pedestrian underpass under Main Street is created connecting Salmon Brook Park to Main Street Market Place. (top right)*

(section drawings from Salmon Brook Charette)

Main Street South to avoid Main Street altogether. By removing as much local traffic and curb cut access from Main Street as possible, Main Street can function more effectively as a regional through route.

Salmon Brook Park

Located south of Main Street Market-Place, Salmon Brook Park is the southern Gateway to Downtown. The park can create a "green" gateway.

Studies and a public design charrette for Salmon Brook Park have explored the possibility of daylighting the culverted brook south of the Main Street Market-Place and creating a pedestrian underpass under Main Street. Additionally, the

park would restore and stabilize remnant historic industrial structures where a dam and turbine once stood. Implementation of this plan will require a partnership with the private property owner.

Redevelopment Opportunities

Main Street South presents many opportunities for redevelopment. Most are located between Otterson and Salmon Brook. With the exception of a few of the grand residences between Hollis and Otterson, most of the buildings are either disposable, obsolete, or of no historic value. Over the next ten years, it is likely that many of these properties will be redeveloped. The Master Plan recommends this redevelopment occur incre-

The reconfigured park celebrates and preserves this part of Nashua's early heritage and development (bottom)

mentally and be primarily driven by the private sector. A public streetscape program is recommended however wholesale public sector acquisition and redevelopment is not necessary.

In sum, the Master Plan identifies approximately 10 to 15 sites for private redevelopment. Most of the sites on Main Street South are located at the proposed retail node between Otterson and Salmon Brook Park. With the redevelopment of the Main Street Marketplace, this retail node will complement both the form and types of retail on Main Street North. Storefront buildings would define the street and sidewalks. Overall, this retail node can absorb between 50,000 and 75,000 additional square feet of retail, further widening the array of Downtown businesses.

Retail sites along Main Street South should redevelop according to the following principles:

- a build-to line should be established at the back of the sidewalk, and a building's frontage must occupy at least 60 percent of this frontage line
- parking must be located behind the building; parking may be located in a 60' wide lot beside the building pro-

vided it is adequately screened from the sidewalk and street.

- buildings must have windows and activities that animate the sidewalk; at least 50 percent of a building's facade on Main Street must have windows and ground floor glass doors opening onto the sidewalk.
- primary entrances must face Main Street South
- in order to minimize parking requirements and encourage development, parking should be shared between adjoining properties; a parking maximum of one space per 4000 square feet should be enforced
- properties must be developed between .25 FAR and .5 FAR (FAR stands for "floor-area-ratio", meaning the ratio of the building's floor area to the overall area of its site).
- buildings must be a minimum of 2 to 3 stories in height



*Existing
Main Street South
(top)*

70



*Proposed
Main Street South
(bottom)*

Frameworks



I Streets: Access and Connectivity

IN GREAT CITIES STREETS are more than a means of simply moving traffic. Streets are just one of the many components creating the public realm.

72

This Master Plan proposes a new framework of streets and blocks for Downtown Nashua. The framework includes converting one-way streets to two-way streets, improved streetscaping, and alignments of new streets.

Conversion of One-Way Streets to Two-Way Streets

Many of the streets in Downtown Nashua were converted to one-way movement after World War II as a means of moving higher volumes of traffic through Downtown. Typically streets were converted in pairs, one in each direction (such as Kinsley and Hollis or Pearl and Factory). However, some are “orphans”—that is, they are not paired.

The public outreach process uncovered a variety of opinions, both negative and positive, about one-way streets. While they do move more traffic, there are several negative impacts:

- faster traffic, therefore a less pleasant pedestrian experience
- confusion and frustration for drivers who cannot move through Downtown based on intuition
- needlessly additional vehicle miles due to restricted movements and re-routing
- less desirable retail environment because businesses get exposure to traffic during either the morning or afternoon commute, but not both
- diminished access to parking and other destinations because of restricted movements
- reliance on wayfinding and signage because driving is no longer intuitive.

For these reasons, the Master Plan recommends converting as many one-way roads to two-way as possible. Doing so, however, is more complicated than simply removing the one-way sign. Typically, slight reconstruction of the road and intersection, as well as new traffic signals are required. Because of the complexity of converting streets from one-way to two, the Master Plan recommends a phased sequence of conversions. All streets have been categorized. A phased conversion is rec-

ommended beginning with those streets that are the most simple to convert (the “orphans”) because they are not paired with another one-way street. Streets were categorized as follows:

- streets that are less than 30' wide and are too narrow to convert to two-way movement with on-street parking
- streets that can be easily converted because they are wider than 30' and are not paired with a street in the opposite direction
- streets that are paired but can be converted with signalization improvements
- lowest priority streets whose conversion is most complicated and therefore require most study.

A more detailed study of one way street conversions is recommended as an early action item in the Implementation Section. This study should examine street widths, land uses, social / cultural contexts, impact of potential loss of on street parking and costs.

Broad Street Parkway

One of the charges of the Master Plan process was to examine the existing plans for the Broad Street Parkway and make recommendations for revisions if necessary to better serve the Downtown and the neighborhoods.



Tier One Conversions:
(top)
Unpaired streets greater than 30 feet wide shown in green
Remaining one-way streets are shown in red.



Tier Two Conversions:
(middle)
Paired streets with sufficient width and capacity shown in green. Remaining one-way streets are shown in red.



Tier Three Conversions:
(bottom)
Paired arterials that require further study shown in green. Remaining one-way streets shown in red.

To this end, the planning team reviewed and analyzed the current proposal, interviewed the community development staff, public works staff, and the regional planning commission staff, conducted a field examination, and applied national experience from other similar projects to the design of the Broad Street Parkway.

Broad Street Parkway:
Existing Proposal

The existing proposal for the Broad Street Parkway calls for a four-lane arterial highway, most of it divided by a center median, extending a distance of 1.7 miles, from a northern terminus at Broad Street to a southern terminus on Hollis Street. In addition to its two terminus intersections (Broad Street and Hollis Street), the proposed parkway would have three other intersections: at a connection to a Sargent Avenue extension, in the Milliard south of the Nashua River, and at Ledge Street just to the south of the Milliard. Auxiliary lanes (left-turn lanes and, in some instances, right turn lanes) would be present at all intersections.

The design speed of the proposed Broad Street Parkway is 40-50 miles per hour, typical of a multi-lane suburban arterial highway. The Parkway is a limited access roadway, with no fronting properties having access to the road. Access to adjacent properties is gained through the three internal intersections and the two terminus intersections.

Strengths and Challenges

The master plan team recognized the two underlying strengths of the current Broad Street proposal:

- It adds to the arterial street network. Adding new street network is always preferable to the alternate action of widening the existing street network.
- It adds new street network in perhaps the most useful alignment in Nashua: i.e., north/south across the Nashua River, thereby creating a par-



Existing One Way Streets

(top)
Current inventory of all one-way streets shown in red



Proposed Conversions

(bottom)
Through an incremental process, 20 of the 47 one-way streets can be converted. Converted streets are shown in red, remaining one-way streets are shown in red.

allel alternate route to the Main Street crossing of the Nashua River, one of the most problematical traffic “bottlenecks” in the City.

- The proposed Parkway provides a large increment of new access to the Millyard district, enabling travel between the Millyard and the north side of the Nashua River without requiring the use of Main Street.

However the Master Plan team developed an alternative which better meets the goals of the City and Downtown.

Although in agreement with the fundamental premises of the Broad Street Parkway, the Master Plan team identified several challenges with the current design as proposed:

- **Road Type A** limited access road is

fundamentally at odds with the character of Nashua, and indeed with cities in general. Limited access roads are most appropriate where mobility – higher speed travel over longer distance – is paramount. In contrast, the primary purpose of arterial streets within the city is access, i.e. distribution to as many intersecting streets and fronting properties as possible, and the provision of frequent opportunities for pedestrian crossings. The limited access feature of the proposed Broad Street Parkway, therefore, is fundamentally at odds with the existing character of Nashua streets, and with the desired character for new streets within the system.

- **Design Speed** The proposed Broad Street Parkway has a design speed of 40-50 miles per hour. This high

Current Broad Street Parkway Existing Proposal
(bottom left)

The proposal provides a high-speed link between Broad Street and the Millyard, but does little for regional through-traffic.

Preferred Alternative for the Broad Street Connector
(bottom right)

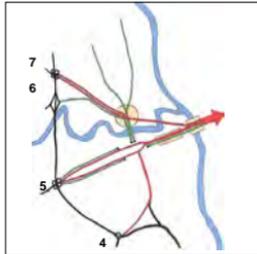
The preferred alternative will provide access to redevelopment properties and will improve congestion at Railroad Square created by regional through traffic.



design speed is incompatible with the densely developed urban fabric (or what should be such fabric) in the road corridor. Design speeds in the 40-50 miles per hour range are appropriate for suburban arterials, in which mobility is the highest consideration. For urban streets for which access and urban street values are the primary consideration, design speeds of around half this amount (i.e., 25 to 30 miles-per-hour) are more appropriate.

- Number of Lanes** Four through lanes of traffic, as proposed in the current Broad Street Parkway design, are far in excess of any need likely to be generated by even the most optimistic of downtown growth scenarios. A two-lane roadway (one lane in each direction) is, on the other hand, fully adequate for all reasonable projections of downtown growth. For example, a two-lane roadway would accommodate downtown growth of 1.25 million square feet of new shopping, or 1.74 million square feet of new office, or 6,200 new downtown dwelling units. These supportable growths, or combinations of them, are greatly in excess of any downtown growth projections.

A cross section with four through lanes translates to a cross section of six lanes at most intersections, and seven lanes at the “worst case” at Ledge Street. Intersection widths of this type are not only visually blight-



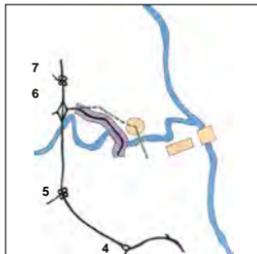
Diagnosis

(top)
 Traffic from Exits 6 and 7 is funnelled through a dog-leg at Railroad Square and a single Merrimack River crossing on East Hollis Street.

Current Broad Street Parkway

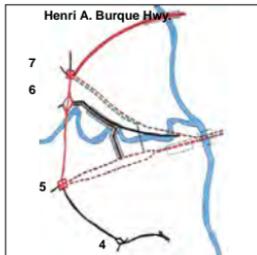
Proposal
(middle)

Proposed roadway serves only Exit 6 traffic to the Milliard. Much traffic is still funnelled through Railroad Square and the single Merrimack River crossing.



Alternative Proposal Broad Street Parkway
(bottom)

Exit 7 traffic takes the Henri A. Burque Highway across the Merrimack River on a new bridge. Exit 6 traffic crosses Railroad Square in a “through-movement.”



ing and out of character with the City of Nashua, but they are inefficient for traffic operations, and hostile to pedestrian and bicycle travel.

- Lack of Address Value** The proposed limited access feature on the proposed Parkway design means that fronting properties cannot have an "address" on the Parkway. At best, properties can appear to front on the Parkway, but must be reached from side streets or parallel "frontage roads." The proposed limited access feature of the Parkway, therefore, will prevent the Parkway from ever becoming an "armature" of development in Nashua. Failure to realize

this potential is particularly disappointing, given the currently undeveloped state of two prime developable areas through which the corridor passes: (1) the Millyard south of the Nashua River and (2) the currently undeveloped land on the south side of the corridor near its western terminus at Broad Street.

- Lack of East/West Street Connection** Although the proposed Broad Street Parkway design accomplishes the all-important north/south connection across the Nashua River, it does little to provide an additional east/west connection on the north side of the River. Such a connection

Broad Street Parkway: "An armature for everything"

If designed well, the road can provide (A) access to redevelopment parcels, (B) connections to a regional trail system, (C) an extension of a local trail system, and (D) improvements to signal operations at Railroad Square.



would be highly valuable in redirecting east/west traffic now on Amherst Street through Railroad Square to other locations (most obviously, to Franklin Street, thereby crossing Main Street away from Railroad Square).

- **Lack of Local Street Connections**

To the south of the Nashua River (i.e., in the Millyard and in the Hollis Street area), the Parkway terminates in a dense network of small local streets or street-like spaces in the Millyard and the Tree Streets Neighborhood. Rather than weaving the Parkway into these streets, however, the proposed design obliterates them, connecting only at one existing street (Ledge Street) with a seven-lane cross section, and at a large new single intersection (five lane approaches) in the Millyard.

- **Through Trips** Although a stated purpose of the proposed Broad Street Parkway is the relief of through traffic (i.e., traffic with neither origin nor destination in Nashua), the road as configured does not offer an impressive source of relief. The major through movements within Nashua are not fundamentally north/south movements, but rather east/west movements, primarily between interchanges 5, 6 and 7 of the Everett Turnpike and the single crossing (Hollis Street) of the Merrimack River. The currently proposed configuration of the Broad Street Park-

way rearranges some of these movements, particularly the movements between Everett Turnpike interchanges 6 and 7 and the Hollis Street crossing of the Merrimack River. The proposed Parkway will permit the rerouting of these movements (or some of them) away from the congested multi-leg intersection at Railroad Square, and redirect them toward the new north/south river crossing and then onto Hollis Street and Kinsley Street. This rerouting of traffic, however, may not have a large benefit, since the same volume of east/west traffic would still appear at the critical bottleneck location at the Hollis Street crossing of the Merrimack River.

- **Cost** The cost of the proposed Board Street Parkway (\$60 million) is extravagant and out of scale. Almost all of the major street network (arterial and collector street) within Nashua is in need of major expenditure for preservation and upgrading. Reducing the scope of the proposed Broad Street Parkway and redirecting the "savings" in funds to other needed projects throughout the City would, in all likelihood, yield a far greater level of return per dollar expended.
- **Land Consumption** The sweeping curves, dictated by the higher design speed of the proposed Parkway, consume large amounts of land for the roadway footprint itself, and further

render a number of land parcels into unusable fragments. Such land gained in excess of real footprint is not suitable for other uses, such as park land or an adjacent trail. The intersections (particularly at Ledge Street, with its seven-lane approach) are notably larger than anything now existing on any surface street within the City of Nashua.

- **Neighborhood Impact** The proposed Broad Street Parkway design terminates in the Tree Streets neighborhood. More accurately, it obliterates a good part of a neighborhood by terminating there.
- **Unimodal** The proposed design is heavily oriented toward moving the maximum possible volume of vehicles, at the highest reasonable speed. Travel by other modes – bicycling and walking – do not appear to be a serious consideration in the design. The design does not appear to integrate the regional walking and bicycling system, despite the fact that the new design constitutes a major acquisition of new land and provides a new river crossing.

Preferred Alternative, Broad Street Parkway

The Master Plan team, in realization of the challenges associated with the currently proposed Broad Street Parkway, proposes the following modifications to the plan:

- **Road Type** In contrast to the cur-

rently proposed limited access road, the master plan recommends a controlled access street. On such a street, high-value fronting properties are encouraged, and are given vehicular access under controlled conditions (carefully planned driveway spacing, rear alley connections, etc.). Rather than minimizing the number of intersections, the preferred alternative would seek to maximize intersections. Specifically, to the south of the Nashua River, the preferred alternative would be carefully woven into the fabric of five or six local streets, rather than obliterating them and imposing a new single intersection.

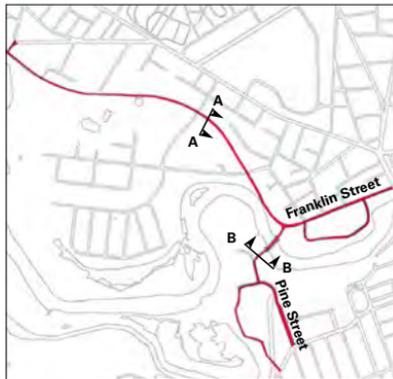
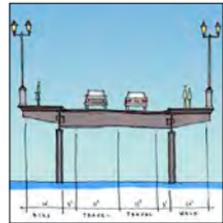
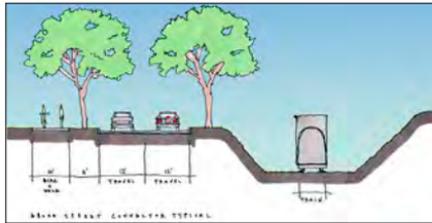
- **Design Speed** The preferred Broad Street Parkway has a design speed of 25-30 miles per hour, appropriate for a new arterial street in an urban area. The lower design speed permits more compact geometric design of the street, smaller intersections, reduced sight distance requirements, makes on-street parking more feasible, greatly improves the pedestrian atmosphere, permits plantings and street furniture to be placed closer to the street, and generally reflects the desirable traits of existing streets in Nashua.
- **Number of Lanes** The preferred alternative should have two through lanes (i.e., a single through lane in each direction). At intersections, a third left-turn lane should be provided. Right-turn auxiliary lanes

should not be provided. A two-lane roadway provides an increment of capacity that is far more than adequate for any reasonable projection of new downtown growth in Nashua.

- Address Value** The design features of the preferred Parkway – specifically its accessibility, design speed and size – should add to the value of the road as an address. Supporting

City policies (zoning, redevelopment initiatives, etc.) should foster the role of the road as an armature for new development.

- East/West Street Connection to Franklin Street** A major advantage of the preferred alternative over the currently standing Broad Street proposal is the connection to Franklin Street on the north side of the



Broad Street Parkway

The preferred alternative for the Broad Street Parkway (left) will provide access to redevelopment opportunities, as well as reduce congestion at Railroad Square.

Recommended cross-section (section A-A) (top left)

Recommended cross-section of Parkway at the new bridge (section B-B) (top right)

Nashua River. This connection creates a new east/west route parallel to Broad Street and Amherst Street, and permits east/west through traffic (from Everett Turnpike interchanges 6 and 7 to the Hollis Street/Merrimack River crossing) to divert from Broad Street and Amherst Street, to use Franklin Street and Canal Street instead, and thereby avoid the major congestion at the multi-leg intersection at Railroad Square. Although the currently proposed Parkway could redirect some of this same through movement southward across the new Nashua River crossing (thereby evading the Railroad Square location), the current plan does not create a new east/west connection, but simply adds the redirected through traffic to the already high volumes on Hollis Street and Kinsley Street.

- Local Street Connections** The preferred alternative, rather than obliterating street connections in the Millyard and Tree Streets neighborhood, will create a fabric of new connections and small streets. The preferred alternative will have far less impact on local streets than the currently standing proposal, because: (1) it will deliver only a single lane of traffic across the Nashua River in each direction and (2) it will disperse its traffic to a number of local street connections, rather than focusing onto a single new large intersection

at Ledge Street.

- Land Consumption** The preferred alternative will consume far less land than the currently proposed Broad Street Parkway. The controlled access feature (as contrasted to the limited access feature of the current proposal) will require the taking of fewer properties, since fronting property value will be increased, not obliterated, by the road. The more compact geometric design of the road, manifested in low design speeds, small frequent intersections, and two-lane cross section, will greatly reduce the land needed for the road footprint itself. Rather than obliterating much of the neighborhood land at the southern terminus, the preferred design would restore this land to dense urban uses.
- Cost** The compact right-of-way, two-lane cross section and lack of limited-access purchases will yield a preferred Broad Street alternative that is most likely a fraction of the cost of the currently proposed alternative. Some individual elements of the cost savings are likely to be spectacular. For example, the structure for the crossing of the Nashua River, some 1,100 feet in length (4 lanes) under the currently proposed plan, would be less than 200 feet (2 lanes) under the preferred alternative.
- Neighborhood Impact** An important principle of the preferred alternative is the restoration of

neighborhoods, and creation of new neighborhood fabric, particularly at the southern end of the Parkway. The preferred alternative does this through a downsized street, the adoption of urban street design guidelines, and the connection to the existing street system at numerous points.

- **Multi-Modal** The preferred design is multi-modal, providing connections to the regional trail system and extension of the local trail system.

An Alternative to Through Traffic:

Extension of the Outer Loop

A Broad Street Parkway – either the currently proposed version or the preferred alternative from this Master Plan – is not the answer to through traffic in downtown Nashua. Far more important than the Broad Street Parkway, in any of its versions, is the extension of the Henri A. Burque Highway with another crossing of the Merrimack River.

As part of the original circumferential connector, the Henri A. Burque Highway was designed to provide a “beltway” around downtown. As is often the case with large road projects, the planning process was slower than private development. As a result, intense development occurred in the corridor and the right-of-way. In the 1990’s, the idea of extending the Henri A. Burque was “shelved” in favor of a new alignment for the circumferential connector several miles to the north on more easily

acquired greenfield land.

Extending the Henri A. Burque was valid many years ago. Today it is still valid, albeit highly unlikely and infeasible. Extending the Henri A. Burque Highway to Hudson will allow traffic generated from Everett Turnpike interchange 6 (Broad Street) and interchange 7 (Amherst Street) destined east to Hudson to do so without traversing Amherst and Canal Streets, and most importantly avoiding Railroad Square and the Hollis Street bridge.

Extension of the Henri A. Burque highway is not likely. Acquisition costs in the foreseeable future are prohibitive. Likewise, NHDOT is in the process of issuing an SEIS on the Circumferential Highway several miles north of the Henri A. Burque. However, should conditions in the corridor change such that the extension of the highway becomes, once again feasible, Nashua should pursue this option.

Preferred Proposal:

Design Recommendations

If the City decides to pursue the basic alignment of the current Broad Street Parkway proposal, the following recommendations are made to assure this alignment best serves both downtown and the region.

The Parkway should be true to its name and be designed as a 25-30 mile-per-hour, two lane road, not a 45-50 mile-per-hour, limited access highway as it has been designed as and conceived of.

A two-lane cross-section will reduce the cost of the roadway significantly yet will not reduce its effectiveness.

The Parkway should incorporate trail elements that substantially implement the City's Master Plan for trails and greenways.

All efforts should be made to preserve and protect the Tree Streets Neighborhood, located at the road's southern terminus. The greatest impacts will likely occur on Elm Street between Hollis and

Kinsley, now a small residential street, where the roadway will force all regional traffic to converge.

The Broad Street Parkway proposal will require traffic modeling in order to confirm the strategic assumptions and decisions. It is important to note that traffic modeling, by itself, should not be considered a litmus test for good (or bad) transportation proposals. Rather they should be used as a tool to help evaluate proposals.

II Trails

A FRAMEWORK OF TRAILS is as important to Nashua as a new framework of streets. People will choose to move to and invest in Nashua because of a package of amenities – not simply because it is affordable or proximate to employment opportunities. Creating a well-developed, well-connected park and trail system will contribute to Nashua's quality of life and make Downtown an integral part of the lives of all Nashua residents, as well as other residents of the region. Its natural assets will attract homebuyers and visitors searching for a connected and public life. Investments in trails will:

- provide recreational outlets for both residents and visitors to Nashua
- weave together important places in the City for individuals and families on bike or on foot
- provide an alternate means of commuting to Downtown
- be a draw for tourists as a connection between the abundant heritage resources Nashua has to offer
- provide improved air quality by offering access to the City without the automobile

Loops and Connections

The new Downtown riverfront park will connect into the larger regional open space system, linking Mine Falls Park to the Merrimack River and other Downtown open space amenities. Dotted red lines indicate on-street bikeways. Solid red lines indicate paths and trails.



- serve an economic development objective by providing a valuable leisure activity for individuals and families.

The idea of an extensive trail system is already a part of the City's 1993 Trails Plan, adopted as part of the City's Master Plan, as well as the region's long-range plan. This Master Plan illustrates how trail systems can be implemented by private and public initiatives recommended in this Plan.

A trail would line both sides of the Nashua River in the Downtown, linking together the new parks, as well as Mine Falls Park. Multiple river crossings create "loops" in the Downtown, connecting many nodes and attractions along the

trail system. Short loops in the Downtown are particularly important because they make short excursions on foot, such as a walk during a lunch hour, interesting and enjoyable.

The riverfront park system proposed in this Master Plan will be connected to Mine Falls Park, thus connecting to the City's predominately residential areas west of the Interstate. This wider connection will open up Downtown as a destination for families and recreationists who would not otherwise go Downtown for anything other than an occasional visit. These trail connections will help expand the appeal of Downtown to all residents of Nashua, not just those living east of the Interstate.

III Design Guidelines



DESIGN GUIDELINES ARE NECESSARY to encourage new development along Main Street South and to reinforce and support the overall goals of this Master Plan. The design guidelines that follow can be applied to new private development opportunities along Main Street South, between Hollis Street and Salmon Brook Park. Within this area, however, the Master Plan defines two very different areas of development:

- 1 A retail node between Otterson Street and Salmon Brook Park, distinct from, yet complementary to, Main Street North.
- 2 A mixed-use area between Hollis and Otterson Streets that respects the architecture and urban design of the existing historic mansions, apartment buildings and institutions.

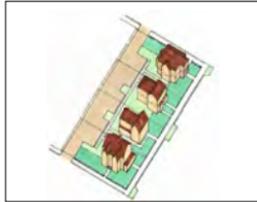
As such, two sets of design guidelines are developed to address desired development patterns for these areas.

Design guidelines present standards for new development. They should be supported by the new zoning code to assure development compatibilities, minimize design review friction, insure investor confidence, and ultimately that new, urban buildings will be appropriate to their context and contributory to the overall health of Downtown Nashua.

Main Street between Hollis and Otterson

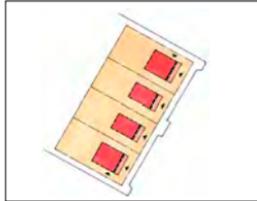
Urban Design Intent

The urban design intent in this area is to strengthen Downtown by creating a transitional zone between the two retail nodes along Main Street North and South. This area should contain smaller buildings with residential, institutional or office uses. Retail development should be discouraged. The form of the buildings should relate to the existing residential buildings; that is, they should be narrow and deep buildings with small yards on all sides.



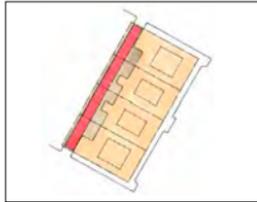
Massing

(top)
Buildings should be domestic in form, two stories and evenly spaced.



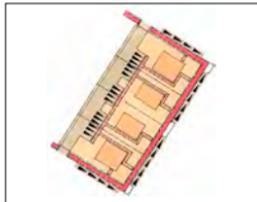
Siting

(second)
Buildings should be set back approximately 15 feet, with one front entry per building.



Easement

(third)
A rear easement is required to coordinate an efficient parking, circulation and service system.



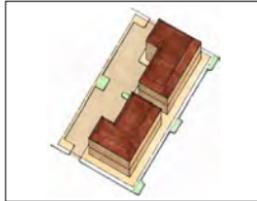
Parking and Pedestrian Circulation

(bottom)
All parking should be in the rear and on-street. Pedestrian circulation A walkway should connect the sidewalk to the front door.

Main Street between Otterson and Salmon Brook

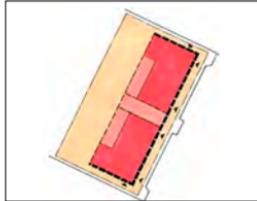
Urban Design Intent

The urban design intent in this area is to concentrate Downtown's retail growth potential in a second retail node along Main Street South by creating mixed-use buildings with mandatory, traditional retail storefronts on the round floor. Broad sidewalks, street trees, on-street parking, awnings, and active storefronts will create a vibrant pedestrian-oriented retail node.



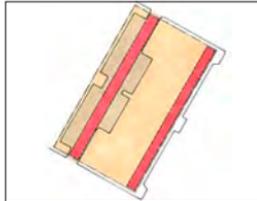
Massing

(top)
One to three story buildings should be simple, well-proportioned masses that front the street.



Siting

(second)
Buildings must be located on the sidewalk, with multiple entries to multiple storefronts.



Easement

(third)
A front easement is required to create a broad sidewalk. The rear easement is required to provide access to parking, service and a clear circulation system.



Parking and Pedestrian Circulation

(bottom)
Each block should have a mid-block pedestrian connection. This path can be either interior to the building or an exterior walkways to access parking behind the buildings.

Residential Design Guidelines

The Master Plan identifies several sites throughout Downtown for new housing. These sites fall into two categories: (1) extensions and insertions into old neighborhoods and (2) former commercial or industrial sites.

The architectural character of new housing should be based upon traditional patterns found throughout and proven successful in Downtown Nashua. Adherence to guidelines is more critical on sites adjacent to or within existing neighborhoods.

Essential characteristics of housing adjacent to or within existing neighborhoods:

- simple, straightforward volumes with gabled or hipped roofs
- windows and doors with wide but vertical proportions
- simplified details and trim
- orderly, but not necessarily symmetrical relationships between windows, doors, and overall building mass
- buildings setback approximately 20 feet from the sidewalk, consistent with surrounding houses, providing a shallow yard zone.



Typical massing of houses (top)

89



Detail of entrance (second)



Perspective of Bronstien Homes (bottom)



iv Implementation

The Master Plan will be implemented over ten years. Upon completion, approximately 500 new residential units, and 500,000 square feet of new square feet of commercial space will be added to Downtown Nashua. In addition, with construction of a new Performing Arts Center, The Center for Nashua Heritage and Future Technology, riverfront parks, and trail connections, the downtown will be strengthened as the region's center for cultural and entertainment, and recreational networks.

Completion of this Master Plan will create two legacies. The first will be a revitalized downtown with a diversified economy that benefits all residents of Nashua. Downtown Nashua will become the soul of the region, and a critical component to the region's superior quality of life.

Second and equally important will be the legacy of partnerships and civic cooperation that are critical to realize the visions of this Master Plan. The Master Plan should not be thought of as a way to spend scarce public dollars - rather it should be thought of as a way to form partnerships, raise capital, and leverage resources.

The ideas set forth in this plan come from the vested interests of the City's diverse body of residents and investors. They rely on a coordinated, cooperative and active public sector working in tandem with an entrepreneurial private sector. The results of this private-public partnership will benefit current and future generations of Nashuans.



Phasing of Priority Projects

The priority projects within the first phase of implementation will include

- Main Street South (Design and Engineering)
- Bronstein Homes (Design and Hope VI Application)
- Broad Street Parkway (Design and Engineering)
- One Way Street Conversion Study
- Center for Nashua Heritage and Future Technology (fundraising)

The priority projects within the second phase of implementation (years 3-6) will include:

- Main Street South (begin construction)
- Broad Street Parkway (begin construction)
- Bronstein Homes (begin construction)
- Riverfront Parks (design and engineering)
- Performing Arts Center (feasibility study)
- Center for Nashua Heritage and Future Technology (design)

The priority projects within the final phase of the implementation will include:

- Riverfront Parks and related development projects (construction)
- Center for Nashua Heritage and Future Technology (construction)
- Performing Arts Center (construction)



Phasing Diagram
Design, Engineering, Feasibility and Fundraising for primary projects described in the Master Plan are shown in blue. Primary construction projects are shown in red; Phase One: (years 1-3) (top)



Phase Two: (years 3-6) (middle)



Phase Three: (years 7-10) (bottom)

Acquisition and Strategy

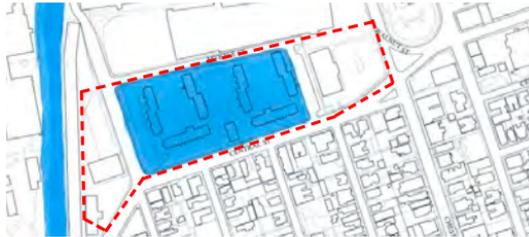
Many of the Master Plan initiatives, particularly those listed in the previous section as *priority projects* will be relatively simple to implement because of the lack of complicated property acquisition. In

most cases much of the required property is either owned by a single private entity or by a public body.

Bronstein Homes

(top)
Ownership

(bottom)
Illustrative Plan



Key	
	Private Ownership
	Public Ownership
	Institutional Ownership



**Riverfront West
Park**

(top)
Ownership

(bottom)
Illustrative Plan



Key

Yellow square	Private Ownership
Orange square	Private Ownership
Blue square	Public Ownership
Green square	Institutional Ownership



**Riverfront East
Park and
Performing Arts
Center**
(top)
Ownership

(bottom)
Illustrative Plan



Key	
   	Private Ownership
 	Public Ownership
 	Institutional Ownership



**Broad Street Park-
way**
(left)
Ownership

(right)
Illustrative Plan

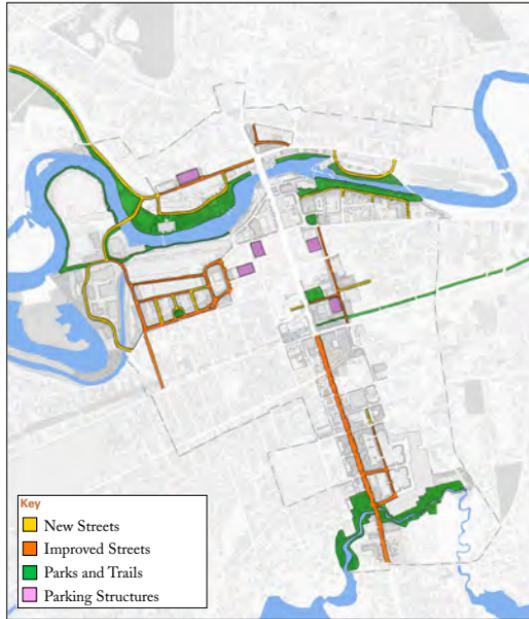


**Nashua Center For
Heritage and
Future Technology**
(left)
Ownership

(right)
Illustrative Plan



Key	
 	Private Ownership
 	Public Ownership
 	Institutional Ownership



Public Infrastructure

The Master Plan recommends public action be taken to create infrastructure that will leverage substantial private investment.

Infrastructure Quantities

The table below is to be used to generate preliminary estimates of costs. Locally appropriate per unit costs can be applied to the values in the table.

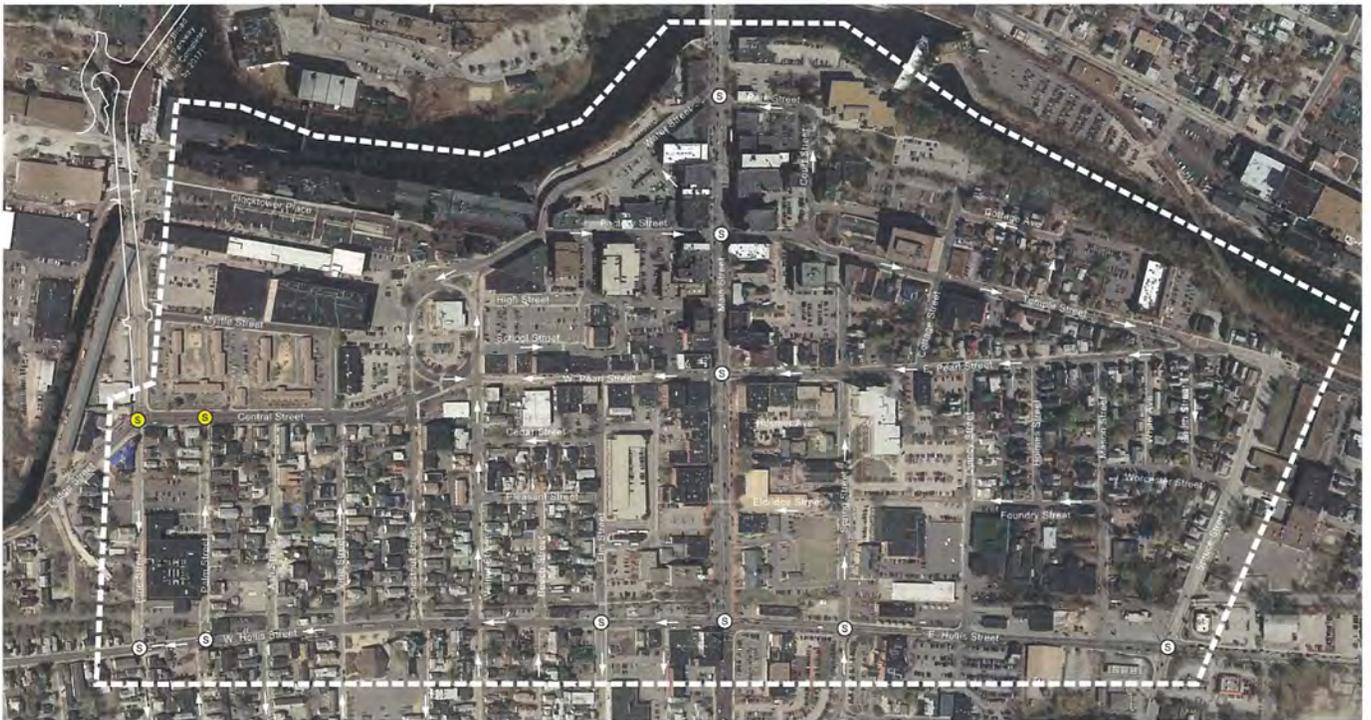
	Riverfront West	Riverfront East	Railroad Square	Main Street North	Main Street South	Total
New Streets	10,650 lf	3,150 lf	0	650 lf	250 lf	14,700 lf
Improved Streets	6,350 lf	0	700 lf	2,200 lf	4700 lf	13,950 lf
Parks	8.2 acres	7.5 acres	0	.7 acres	6.4 acres	22.8 acres
Parking Structures	520 spaces	0	0	640 spaces	300 spaces	1,460 spaces
Trails outside Parks	9,600 lf	250 lf	0	3,300 lf	0	13,150 lf

Appendix C

2015 Downtown Circulation Study

Downtown Circulation Study

Nashua, New Hampshire



Prepared for **City of Nashua, New Hampshire**

Prepared by **VHB / Vanasse Hangen Brustlin, Inc.**
Bedford, New Hampshire

January, 2015

Downtown Circulation Study

Nashua, New Hampshire

Prepared for

The City of Nashua, NH

Prepared by

Vanasse Hangen Brustlin, Inc.
Bedford, New Hampshire

January, 2015

Table of Contents

Executive Summary	1
Introduction	1
Existing Conditions	1
Public Input	3
Study Findings	3
Next Steps	7
1.0 Introduction	9
1.1 Project Background	9
1.2 Study Area	9
2.0 Existing Conditions	10
2.1 Introduction	10
2.2 Existing Facilities	10
2.2.1 Roadways	10
2.2.2 Public Transportation	11
2.2.3 Bicycle and Pedestrian	11
2.3 Traffic Operations	12
2.3.1 Traffic Volumes	12
2.3.2 Seasonal Variation	15
2.3.3 No Action Traffic Operations	15
2.3.4 Crash Evaluation	24
2.4 Existing Conditions Summary	26
3.0 Alternatives Evaluation	28
3.1 Conceptual Alternatives	28
3.1.1 Walnut Street Oval	28
3.1.2 Water Street	32
3.1.3 Factory Street	33
3.1.4 East and West Pearl Street	35
3.1.5 Factory Street/Temple Street and East and West Pearl Street	36
3.1.6 Spring Street	38
3.1.7 Park Street and Court Street	40
3.1.8 Pedestrian Signal Phasing	41
3.2 Public Outreach Process	43
4.0 Study Findings	45

List of Figures

Figure No.	Description
1	Study Area
2	Broad Street Parkway Concept Plan
3	Public Transportation
4	Pedestrian and Bicycle Facilities
5	Hourly Volumes - Main Street, North of Hollis Street
6	Hourly Volumes - East Hollis Street, East of Main Street
7	Hourly Volumes – Chestnut Street, North of West Hollis Street
8	2017 Weekday Morning Peak Hour Traffic Volumes
9	2017 Weekday Evening Peak Hour Traffic Volumes
10	2017 Level of Service Summary
11	Crash Summary
12	Exiting Conditions Summary
13	Walnut Street Oval Grid Pattern Circulation Alternative
14	Walnut Street Oval Southern Consolidation Alternatives
15	Walnut Street Oval Northern Consolidation Alternatives
16	Walnut Street Oval Dual Roundabout Alternatives
17	Water Street Pedestrian Corridor Alternative
18	Factory Street Temple Street Two-way Conversion Alternative
19	East and West Pearl Streets Two-way Conversion Alternative
20	Factory Street/Temple Streets and East and West Pearl Streets Reverse One-way
21	Spring Street Two-way Conversion Alternative
22	Park Street and Court Streets Two-way Conversion Alternative
23	Exclusive Pedestrian Crossing
24	Concurrent Pedestrian Crossing
25	Concurrent Pedestrian Crossing with Early Release

Executive Summary

Introduction

Nashua's Downtown serves an integral role in defining the identity and spirit of the community. Main Street and the surrounding roadways that make up the Downtown are places to gather, conduct business, and express the values that unite residents. With this in mind, the City of Nashua retained Vanasse Hangen Brustlin, Inc. (VHB) to evaluate existing traffic circulation within the Downtown and to make suggestions on any needed modifications that might enhance the experience of those who live, work, and visit the Downtown. The purpose of the study is to:

- Develop and evaluate potential actions to improve roadway and intersection traffic flow with regard to mobility
- Strengthen transit, pedestrian, and bicycle connections
- Enhance accessibility for residents and business within the Downtown.

The intent of the study is not to develop or recommend major reconstruction projects, but rather, to identify modest actions that the City might consider implementing over time.

The study area is generally bound by the Nashua River to the north, Spruce Street to the east, East and West Hollis Streets to the south, and Pine Street to the west.

Existing Conditions

A review of existing conditions revealed a vibrant and thriving Downtown. Traffic volume demand is high, not only during the peak commuter hours, but throughout the day. Traffic flow is controlled along the major arterials of Main Street, West Hollis Street, and East Hollis Street by a total of nine traffic signal controlled intersections. Additionally, as part of the Broad Street Parkway project, two new traffic signals will be installed at the Central Street/Pine Street and Central Street/Palm Street intersections.

The results of the operational analyses, with the Broad Street Parkway in place, indicate that each of the signalized intersections are expected to operate acceptably (LOS D or better). Similarly, the results of the evaluation shows acceptable operating conditions at the unsignalized study area intersections with the exception of the Walnut Street Oval, which revealed an LOS F operation during the weekday evening peak hour.

The most dominating feature of the Downtown's existing roadway network is the presence of numerous one-way streets. Factory Street and Temple Street form a one-



way east-west couplet with East Pearl Street and West Pearl Street. Similarly, West Hollis Street forms a one-way east-west couplet with Kinsley Street. There are also numerous north-south one-way couplets such as Pine Street with Palm Street, Ash Street with Vine Street, and Chestnut Street with Walnut Street. Other one-way streets include School Street, Cedar Street, Eldridge Street, Spring Street, Foundry Street, South Street, Cottage Avenue, Court Street, and Park Street.

The Downtown is well served by public transportation with the Nashua Transit Center located on Elm Street in the heart of the Downtown. The Nashua Transit System runs Citybus (a daytime fixed route service); After 7 (an evening fixed route service); and City Lift (a paratransit senior citizen service, with routes throughout the Downtown).

Pedestrian mobility is accommodated primarily with the presence of sidewalks, crosswalks, pedestrian phase actuation at traffic signal controlled intersections, and off-road facilities such as the Nashua Heritage Rail Trail and the Nashua Riverwalk. Sidewalks are provided along nearly all streets within the study area with only minor exceptions. Crosswalks are present at major roadway intersections while midblock crossings are present along East Pearl Street, Main Street, Temple Street Pine Street, and Palm Street.

The Nashua Heritage Rail Trail, which runs parallel to West Hollis Street, provides access to both pedestrians and bicyclists. While the trail has some roadway crossings, it provides an important alternative to the high traffic volume route of West Hollis Street.

Other than the Nashua Heritage Rail Trail, there are few defined bicycle facilities within the study area. Defined bicycle lanes are provided on Temple Street, between Spring Street and East Pearl Street, and on East Pearl Street, between Spring Street and Temple Street. Bicycle lanes are marked and include both diamond and bicycle shaped identification markings. Bicycle shoulders are also provided along Pine Street, Palm Street, and will be provided along the soon-to-be completed.

Also, the Nashua Heritage Rail Trail and the defined bicycle lanes along such roadways as Temple Street and East Pearl Street are not well connected. This absence of connectivity tends to discourage recreational bicyclists and young bicyclists from using the existing bike facilities. Additionally, no bicycle racks were observed. However, the City has recently purchased bike racks as part of the City's sidewalk reconstruction project. The City is currently considering where best to locate the bike racks.

A review of crash data over the nine-year period of 2002 through 2010 showed the Main Street/West Hollis Street/East Hollis Street intersection to have the most reported crashes with an average of over 10 crashes per year. This intersection also showed the highest occurrence of pedestrian related crashes with a total of eight pedestrian related crashes over the nine-year period. Also of note, 70 percent of all pedestrian related crashes within the study area occurred at signalized intersections that have pedestrian crossing signals.

Public Input

The study included an open and consensus-driven public participation process. In addition to meetings with City staff and a public presentation to a joint meeting of the Board of Aldermen Committee on Infrastructure and Planning & Economic Development Committee, an important public workshop was held on April 30, 2014.

The workshop, which was attended by residents, property and business owners, as well as the Mayor, members of the Board of Aldermen and key City staff, provided attendees an opportunity to share their ideas on a wide range of potential solutions directly with the study team in an informal workshop-type format.

The following is a small sampling of some of the comments provided by attendees of the workshop. This is not a complete list of the comments and suggestions.

- Do not remove on-street parking.
- Maintain raised crosswalks.
- Bike racks are needed throughout the Downtown.
- Bike lanes need to be connected and routes need to be developed for both east-west as well as north-south travel.
- Consider “walk with traffic” pedestrian traffic signals.
- Converting Water Street to a pedestrian connection with green space is a good idea.
- Reverse the one-way flow on East Pearl Street and Temple Street to improve circulation.
- The Post Office on Spring Street is the cause of most of the existing problems on the street – customers cause backups during the morning peak hours.
- Maintain one-way operation East Hollis Street and East Pearl Street, but convert Spring Street to two-way.
- Consider any circulation modifications within the context of future land development projects.

These and many other comments and suggestions were considered in the development of the Study Findings.

Study Findings

To improve vehicular mobility, strengthen transit, pedestrian, and bicycle connections, and to enhance accessibility for residents and businesses, the City

should consider converting some of the Downtown's one-way streets to two-way flow. However, changing the circulation patterns of several streets at the same time can be disruptive and therefore it would be best to implement these types of actions over time. Some of the actions could be implemented now, some in the future, and some would be best implemented as part of future roadway reconfiguration projects.

Walnut Street Oval

Reconfiguring the Walnut Street Oval would not only afford the City an opportunity to enhance access to the Downtown from the west (complimenting the Broad Street Parkway), but it would also provide a tremendous opportunity to both encourage redevelopment and introduce a more pedestrian friendly appeal to the area.

A range of reconfiguration alternatives were considered. Although each option has its advantages and disadvantages, the duel roundabout option would appear to provide the best opportunity to enhance vehicular and pedestrian mobility while encouraging area redevelopment.

Advancing the roadway reconfiguration, solely as a City improvement project, would be costly and as result could take many years. However, if there was an opportunity for this type of roadway reconstruction project to be constructed by the private sector as part of a larger redevelopment plan where the City and one or more property developers worked together, this type of project could advance much quicker. To advance this concept, the City should share the reconfiguration concept with interested area property developers and initiate discussions with them in an effort to spark interest in the area's redevelopment opportunities.



Water Street

If one or more private developers, in collaboration with the City, were to advance a pedestrian friendly redevelopment plan for the Walnut Street Oval area, it would be advantageous to provide continuous pedestrian connectivity to the Nashua River at Water Street. This could be done by converting the western segment of Water Street to a pedestrian corridor. Full vehicular access and egress would be maintained for all businesses on Water Street by way of the traffic signal controlled Main Street intersection. The pedestrian corridor, which would connect to Factory Street, would not only provide access to pedestrians and bicyclists, but it would provide an aesthetically pleasing area with landscaping, benches, and great views of the River.





Factory Street

In addition to the aesthetic and community enhancements and the improved pedestrian connectivity to the Nashua River, converting the western segment of Water Street to a pedestrian corridor, would remove vehicular traffic from entering Factory Street from Water Street and thereby negate the poor sight line issue. With the poor sight line issue addressed, Factory Street can be converted to two-way flow. Factory Street's existing 36-foot curb-to-curb width would accommodate a single travel lane in each direction while maintaining the existing on-street parking on the north side of the street. This change would require modifications to the Main Street/Factory Street/Temple Street traffic signal. The City should consider converting Factory Street to two-way, but only as part of the closure of the western segment of Water Street.

West Pearl Street

Converting West Pearl Street to two-way flow would provide improved connectivity to and from Main Street. The existing 36-foot curb-to-curb width along the segment of West Pearl Street from Main Street to Elm Street would accommodate a single travel lane per direction while allowing the City to maintain the existing on-street parking on the north side of the street. However, because the segment of West Pearl Street from Elm Street to Walnut Street is only 34 feet wide with on-street parking on both sides of the street, the conversion to two-way flow would most likely result in the loss of the existing on-street parking spaces on the south side of the street. In an effort to minimize any loss of on-street parking, the City could consider reducing the approximately 8' wide sidewalk on the south side of the west end of West Hollis Street by approximately 2 feet. This additional roadway width could accommodate two 10' travel lanes in addition to maintaining on-street parking on both sides of the roadway.

This conversion to two-way operation would require modifications to the Main Street/ East Pearl Street/West Pearl Street traffic signal. Converting West Pearl Street to two-way flow would best be accomplished as part of any reconfiguration and redevelopment plan for the Walnut Street Oval.

Temple Street and East Pearl Streets

Converting either Temple Street and/or East Pearl Street from their existing one-way operation to two-way flow would improve vehicular mobility. However, the downside of the conversion would be the loss of on-street parking and/or an existing designated bike lane. Temple Street's existing 34-foot curb-to-curb width accommodates a single travel lane, a bicycle lane, and on-street parking on both sides of the street. To convert the roadway to two-way flow with a travel lane and a bike lane in each direction would necessitate the loss of parking on both sides of the street. Similarly, providing two-way flow on East Pearl Street, which has sections as narrow as 28 feet, would necessitate the loss of parking and the bike lane. Additionally, based on public input, there does not appear to be much support for converting either Temple Street or East Pearl Street to two-way flow. For these reasons, it may be best for the City to leave Temple Street and East Pearl as currently configured for the time being.

Spring Street

Converting Spring Street from East Hollis Street to East Pearl Street from its existing one-way northbound operation to two-way flow would be relatively straightforward as the roadway currently has two travel lanes in addition to on-street parking on the east side of the street. However, the change would require modifications to the East

Hollis Street/Spring Street traffic signal. Also, patrons of the Post Office would no longer be able to queue along one of the travel lanes when the parking lot gets congested (as they do today) as the northbound traffic would be limited to one lane. Nevertheless, if the City is committed to begin to convert some of its one-way streets to two-way, Spring Street may be a good location to start.

Court Street and Park Street

Converting Court Street and Park Street to two-way operation would improve mobility in the area and also enhance land development opportunities. Converting Court Street to two-way operation would at a minimum involve modest modifications, to the Court Street/Temple Street intersection such as removing the raised channelized island on Temple Street. However, a better option would be to initiate discussions with the owner of the 30 Temple Street property regarding the potential redevelopment opportunities for the adjacent parcels, which perhaps could include the reconfiguration of the intersection in such a way as to connect Spring Street directly into the intersection. Also, given the offset configuration of the Main Street/Park Street/Water Street intersection, it may be best to maintain the one-way westbound restriction for the short (approximately 100') western most section of Park Street. Connection to Pearson Street would be maintained through the existing parking lot. Prior to the City advancing the conversion to two-way flow along Court Street and Park Street it would be advantageous to work with the owner of the 30 Temple Street property to consider whether a reconfiguration of the Court Street/Temple Street intersection could be coordinated with any development proposal.

Share the Road Philosophy

Providing additional designated bicycle lanes within the existing cross-section of the Downtown streets would be difficult without sacrificing on-street parking. Although there is strong advocacy for improved bicycle connectivity, there does not appear to be strong support for providing designated bicycle lanes along Downtown streets – particularly if doing so would impact on-street parking. Nevertheless, there are actions that the City can take to encourage bicycle use and enhance the experience of bicyclists. The City should continue to advance off-road opportunities for connectivity such as the Nashua Heritage Rail Trail and the Nashua Riverwalk. Bike racks could be installed throughout the Downtown. The City recently purchased bike racks as part of the sidewalk reconstruction project and is currently working to identify locations where the racks will be placed.



The City could also install more “Share the Roadway” signs, which serve to remind motorists of the multi-modal character of the Downtown. Moreover, in addition to these specific actions, the City should, within the core of the Downtown, establish a “Share the Road” philosophy. The concept of share the road stems from the idea that all roadways within the core area of the Downtown should have a look and feel of an area where motorists will expect to see and will be welcoming to pedestrians and bicyclists. This is best accomplished by minimizing the pavement width of travel lanes while maximizing the width of sidewalks and providing numerous areas where people are encouraged to gather.

Concurrent Pedestrian Signal Phasing

Together with the share the road philosophy, the City should consider providing concurrent pedestrian signal phasing at all study area intersection. Concurrent pedestrian signal phasing allows pedestrians to cross an intersection at the same time as in the same direction and at the same time (concurrently) with motor vehicles and bicyclists traveling in the same direction. This type of signal phasing, as opposed to exclusive pedestrian phasing that only allows pedestrians to cross when vehicles on all approaches to the intersection are stopped, would provide enhance both pedestrian and vehicular mobility.

Next Steps

This planning study identified a number of issues and potential solutions on a conceptual basis. Some of the actions will require more detailed evaluation and design and some may best be accomplished by, or in partnership with the development community. However, there are steps that the City can begin to take now to improve traffic circulation with the goal of enhancing the experience of those who live, work, and visit the Downtown. These next steps are described as follows:

1. The City should maintain a consistent and continually reinforcing multi-model vision for the Downtown that will serve to guide decision makers over the coming years.
2. As an initial project, the City should consider converting Spring Street from Hollis Street to East Pearl Street from its existing one-way northbound operation to two-way flow. Doing so will necessitate modifications to the East Hollis Street/Spring Street traffic signal at an estimated cost of approximately \$40,000.
3. The City should pursue the two-roundabout alternative at the Walnut Street Oval. This action would serve to improve vehicular, pedestrian, and bicycle mobility while also maximizing developable land. The economic development potential of the area is tremendous. However, the costs are substantial. The roadway reconstruction cost alone (not including land costs) are estimated at over \$2 million. A creative public/private partnership with the City working closely with the development community could stimulate economic development within this important part of the Downtown.
4. Upon the completion and opening of the Broad Street Parkway, the City (perhaps in partnership with the NRPC) should conduct updated traffic volume counts throughout the Downtown. Previous studies have estimated diversionary effects of the Parkway. However, prior to committing to any substantial modifications to the Downtown street system, the City should obtain actual post-Parkway traffic volumes. This is particularly important in assessing the increase in traffic demand destined to Main Street from the Parkway.
5. The City should consider converting West Pearl Street to two-way operation. However, to maintain parking on both sides of the roadway, the City would need to reduce the approximately 8' wide sidewalk on the south side of the west end of West Hollis Street by approximately 2 feet. This additional



roadway width could accommodate two 10' travel lanes in addition to maintaining on-street parking on both sides of the roadway. This modification to the sidewalk is estimated to cost approximately \$20,000.

6. The City should begin to evaluate the potential benefits of converting the western segment of Water Street to a pedestrian corridor. Although this may be a longer-term project, providing this pedestrian connection to the Nashua River, particularly if the Walnut Street Oval area gets redeveloped, will continue to reinforce the notion that Downtown Nashua is a pedestrian friendly environment.
7. If the City converts the western segment of Water Street to a pedestrian corridor, the City should then convert Factory Street to two-way flow. Factory Street's existing 36-foot curb-to-curb width would accommodate a single travel lane in each direction while maintaining the existing on-street parking on the south side of the street. This change would require modifications to the Main Street/Factory Street/Temple Street traffic signal.
8. The City should consider converting Court Street and Park Street (with the exception of the short section closest to Main Street) to two-way flow. However, prior to advancing this action, the City should involve the property owner of the 30 Temple Street office building. Converting Court Street to two-way flow would, at a minimum involve modest modifications, to the Court Street/Temple Street intersection such as removing the raised channelized island on Temple Street. However, a better option would be to initiate discussions with the owner of the 30 Temple Street property regarding the potential redevelopment opportunities for the adjacent parcels, which perhaps could include the reconfiguration of the intersection in such a way as to connect Spring Street directly into the intersection.

1

Introduction

1.1 Project Background

Nashua's Downtown serves an integral role in defining the identity and spirit of the community. Main Street and the surrounding roadways that make up the Downtown are places to gather, conduct business, and express the values that unite residents. With this in mind, the City of Nashua retained Vanasse Hangen Brustlin, Inc. (VHB) to evaluate existing traffic circulation within the Downtown and to make suggestions on any needed modifications that might enhance the experience of those who live, work, and visit the Downtown. The purpose of the study is to:

- Develop and evaluate potential actions to improve roadway and intersection traffic flow with regard to mobility
- Strengthen transit, pedestrian, and bicycle connections
- Enhance accessibility for residents and business within the Downtown.

The intent of the study is not to develop or recommend major reconstruction projects, but rather, to identify modest actions that the City might consider implementing over time.

1.2 Study Area

The project study area is generally bound by the Nashua River to the north, Spruce Street to the east, East and West Hollis Streets to the south, and Pine Street to the west. Main Street, which runs in a general north-south direction, bisects the study area approximately in half. The soon to be completed Broad Street Parkway is located on the western extent of the study area. The study area is depicted in **Figure 1**.



LEGEND

-  General Study Area Limits
-  Directional Traffic Flow
-  Existing Traffic Signal
-  Future Traffic Signal
(To be constructed by the Broad Street Parkway Project)

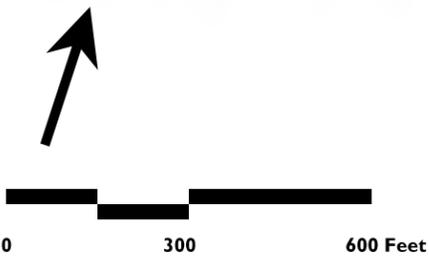


Figure 1
Study Area

2

Existing Conditions

2.1 Introduction

The first step in this study is to establish a clear understanding of the existing conditions within the Downtown study area. This chapter provides a description of existing baseline conditions serving the various modes of transportation (automobile, truck, transit, bicycle, and pedestrian) within the study area. Described and summarized herein are the findings of the data collection effort, the development of the baseline traffic volume networks and the results of the baseline operating conditions. The existing transportation system, including roadways, public transportation, bicycle, pedestrian facilities are also described and summarized.

2.2 Existing Facilities

■ 2.2.1 Roadways

Traffic flow within the study area is primarily controlled along the major arterials of Main Street, West Hollis Street, and East Hollis Street by a total of nine traffic signal controlled intersections. In addition, the study area includes more than 50 unsignalized intersections. Most of the signalized intersections (i.e., all but the Pine-Palm Street signals) provide turning lanes, while the majority of the unsignalized intersections are single lane approaches. Most of the unsignalized intersections are controlled by both pavement markings (STOP bars) and signage (YIELD or STOP signs). There are a few exceptions (nine intersections) where pavement markings are present, but no signage. These intersections are Clocktower Place at the Walnut Street Oval, West Hollis Street at Beech Street, Quincy Street at Foundry Street, Foundry Street at Holmes Street, Elm Street at Garden Street, Walnut Street at Cedar Street, Spruce Street at Worcester Street, Spruce Street at Howard Street, and Spring Street at Hosmer Avenue.

Numerous one-way streets are located throughout the study area. Factory Street/Temple Street form an east-west one-way pair (couplet) with East and West Pearl Streets. West Hollis Street forms another east-west couplet with Kinsley Street, which is located just beyond the southern boundary of the study area. Factory

Street/Temple Street carries eastbound traffic flow while East and West Pearl Streets provide westbound flow. Traditionally, in a downtown grid network, one-way streets would alternate between eastbound and westbound roadways. In Nashua, East/West Hollis Streets are oriented for westbound travel while Kinsley Street is oriented for eastbound travel. This reverse orientation can be challenging for motorists who are unfamiliar with the area. There are also north-south one-way pairs consisting of Pine Street with Palm Street, Ash Street with Vine Street, and Chestnut Street with Walnut Street. These north-south one-way pairs do alternate with northbound roads adjacent to southbound roads followed by northbound roads again for most streets west of Main Street. An exception occurs just east of Main Street where northbound Spring Street does not have a corresponding one-way pair.

Roadways throughout the east end of the study area, as well as East Hollis Street and West Hollis Street, have posted speed limits of 30 mph. Posted speed limits throughout the west end of the study area, as well as along Main Street, are 25 mph.

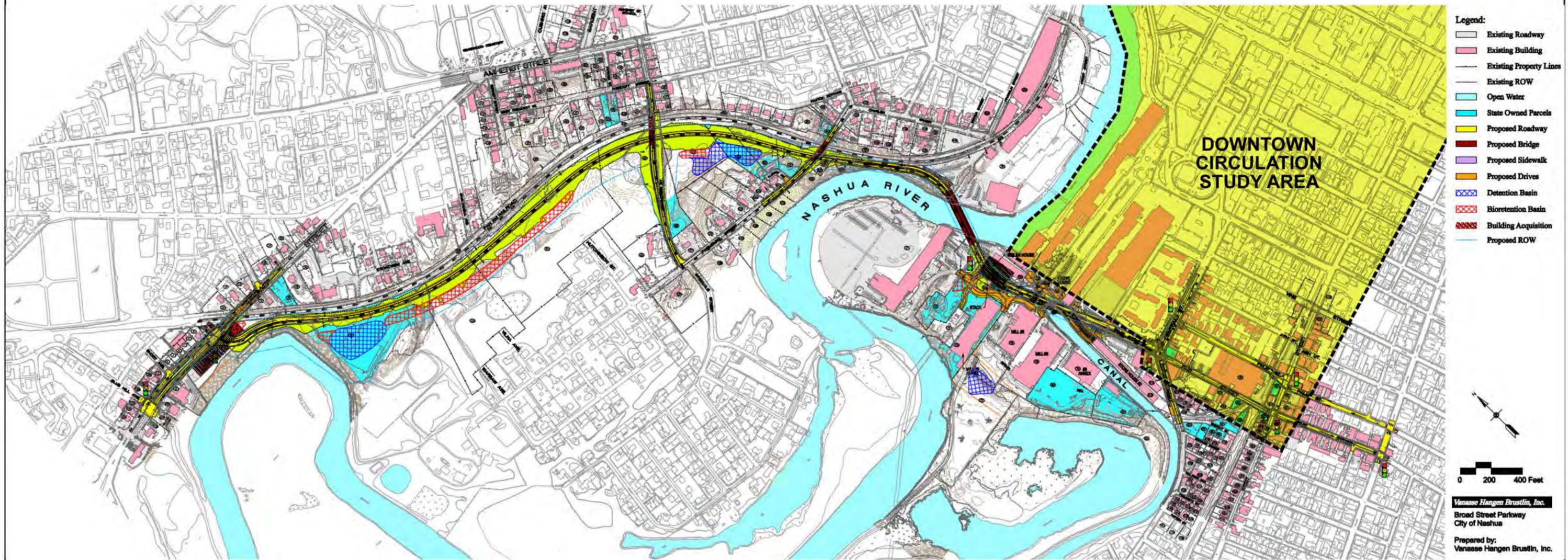
For the purpose of this study, the evaluation considers that the Broad Street Parkway is complete and fully operational. The 1.8 mile roadway will provide a link between Broad Street (NH Route 130) on the north side of the Nashua River and the West Hollis and Kinsley Street couplet on the south side of the river. This roadway connects the Millyard District directly to the north side of the river bypassing Main Street. The Broad Street Parkway is intended to divert north-south traffic from Main Street and provide greater access to the Millyard. **Figure 2** shows the finalized concept plan for the Broad Street Parkway in relation to the study area. Although the Final Environmental Impact Statement and all supporting analyses identified the Broad Street Parkway to be opened by 2017, the City has expedited the project and completion is currently targeted as early as August 2015. Nevertheless, this study considers 2017 as the baseline condition.

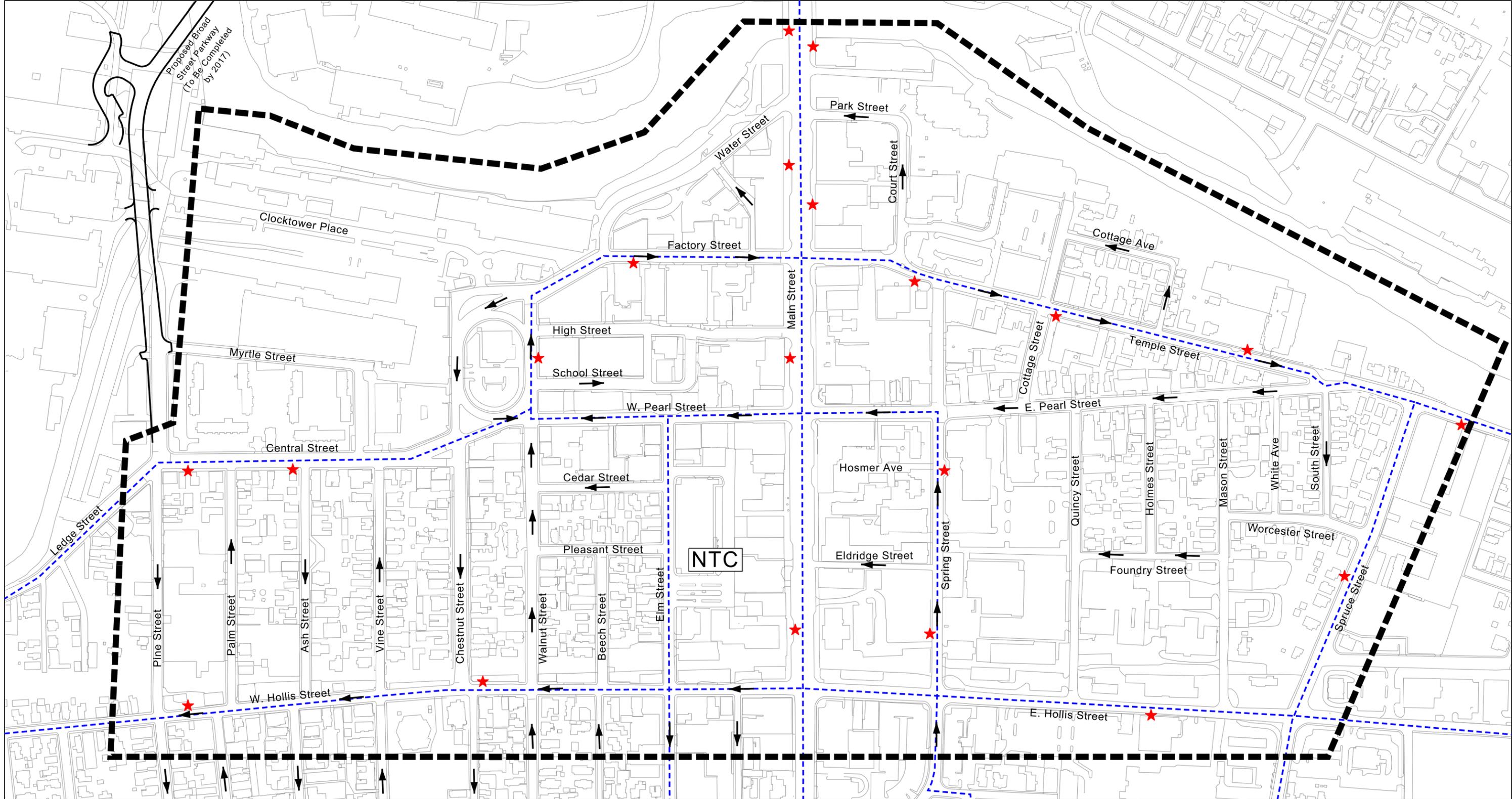
■ 2.2.2 Public Transportation

Public transit is currently provided within the study area by the Nashua Transit System (NTS) with the Nashua Transit Center located on Elm Street adjacent Nashua City Hall. NTS has provided public transportation since 1886 and has routes extending throughout the City. Three major services are provided by NTS: Citybus – a daytime fixed route service; After 7 – an evening fixed route service; and City Lift a paratransit and senior citizen service running on the same routes as Citybus with expanded service areas. All routes begin and end at the transit center. The primary roadways with transit activities within the study area are Elm Street (location of transit center) Main Street, Temple Street/Factory Street and East/West Hollis Street. The study area bus routes and bus stops are depicted graphically in **Figure 3**.

■ 2.2.3 Bicycle and Pedestrian

Pedestrian amenities are important to encourage walking trips within the downtown. Safe and efficient pedestrian mobility contributes to a vibrant downtown. Pedestrian facilities within the Downtown consist primarily of sidewalks and crosswalks along





LEGEND

-  General Study Area Limits
-  Directional Traffic Flow
-  Nashua Transit Center
-  Approximate Bus Stop Locations
-  Bus Routes

public streets, but also include internal connections on and between building sites. As shown in **Figure 4**, sidewalks are provided along nearly all streets within the study area with only minor exceptions. Crosswalks are present at major roadway intersections while midblock crossings are present along East Pearl Street, Main Street, Temple Street, Pine Street, and Palm Street. There are walkways located between buildings that provide pedestrian connectivity. One example is the pedestrian connection linking School Street and West Pearl Street on the south side of the School Street parking lot.

The Heritage Rail Trail is located on the west side of the study area parallel to West Hollis Street. Starting at Main Street near City Hall, the Heritage Rail Trail extends westward and parallel to West Hollis Street for approximately 1.3 miles. This paved rail trail is shared by both pedestrians and bicyclists. While the trail has many roadway crossings, it provides separation from the heavy traffic flow that can be found along West Hollis Street.

Other than the Nashua Heritage Rail Trail, there are few defined bicycle facilities within the study area. Defined bicycle lanes are provided on Temple Street, between Spring Street and East Pearl Street, and on East Pearl Street, between Spring Street and Temple Street. Temple Street and East Pearl Street are both one-way roadways with marked parking generally on both sides of the roadway. Bicycle lanes are marked and include both diamond and bicycle shaped identification markings. Bicycle shoulders are also provided along Pine Street, Palm Street, and will be provided along the soon-to-be completed Broad Street Parkway.

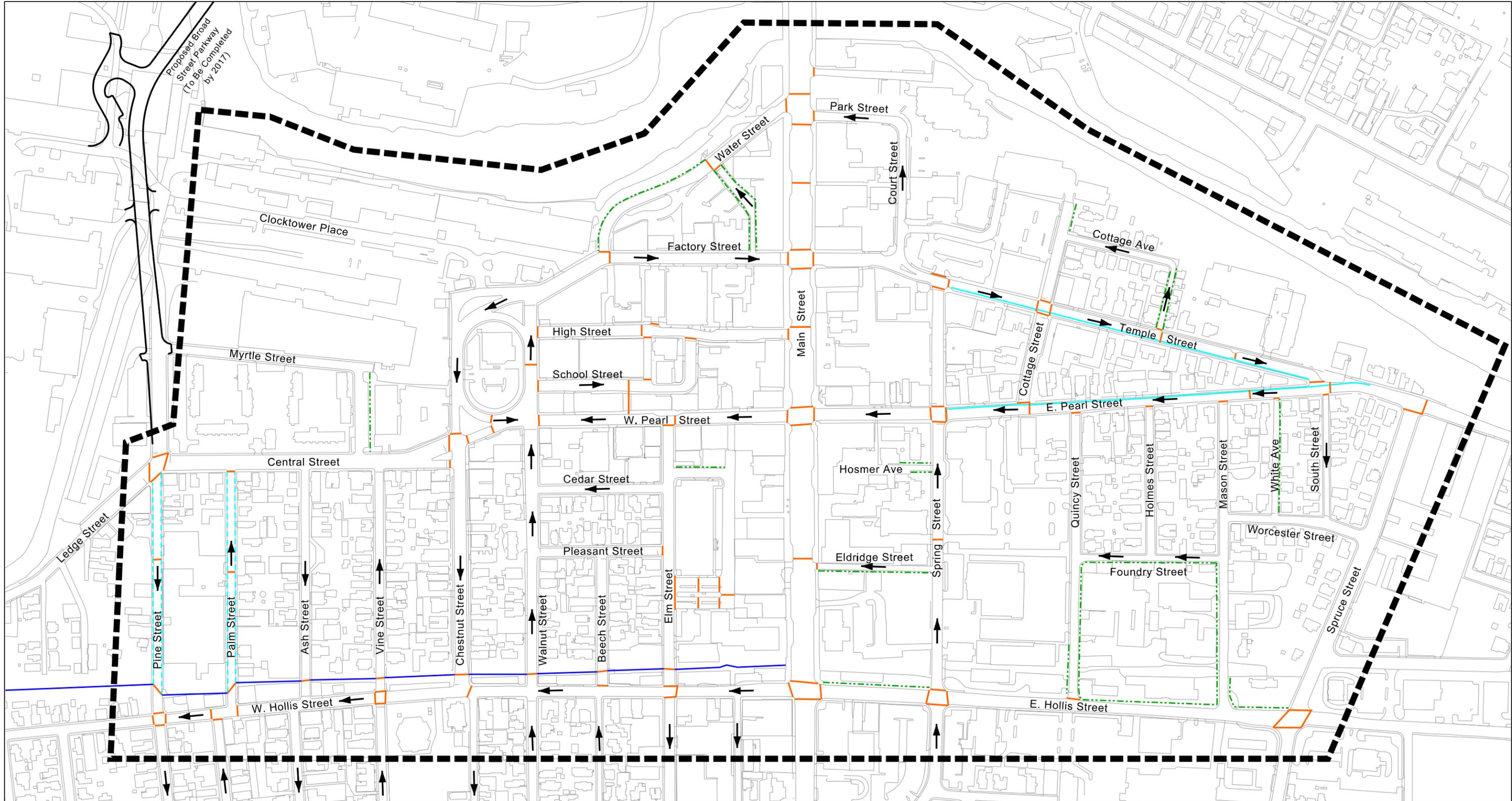
Also as shown in **Figure 4**, the Heritage Rail Trail and the bicycle lanes are not connected. This may discourage recreational and young bicyclists from using these existing bike facilities. Additionally, no bicycle racks were observed (observations conducted in winter) which discourages the use of bicycles due to lack of parking/storing opportunities. However, the City has recently purchased bike racks as part of the City's sidewalk reconstruction project. The City is currently considering where best to locate the bike racks.

2.3 Traffic Operations

■ 2.3.1 Traffic Volumes

To determine the existing traffic volume demands and flow patterns within the study area, a traffic volume count program was conducted in January 2013. Weekday morning (7:00-9:00 AM) and weekday evening (4:00-6:00 PM) peak period manual turning movement counts were conducted at select intersections to fill gaps in the available historical data. Historical data was available from multiple sources including Nashua Citywide Traffic Signals at Various Locations Project (2012), Pine Street & Palm Street Improvement Project (2011), Broad Street Parkway Final Environmental Impact Statement (2010), and automatic traffic recorder (ATR) counts from the Nashua Regional Planning Commission (NRPC) (2002-2012).

Review of the hourly traffic volume variations for the average weekday condition at three locations throughout the study area (Main Street north of East/West Hollis



LEGEND

-  General Study Area Limits
-  Directional Traffic Flow
-  Crosswalks
-  No Sidewalk
-  Signed/Striped Bike Lanes
-  Bike Shoulder
-  Heritage Trail (multi-use path)

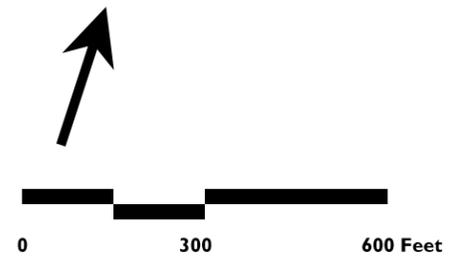


Figure 4
Pedestrians and Bicyclist Facilities

Street, East Hollis Street east of Main Street, and Chestnut Street north of West Hollis Street) are shown in Figures 5 through 7 and depict a combination of commuter and local driver characteristics. The commuter characteristics are reflected with the peaks during the morning and evening rush hours. However, the relatively high traffic volume maintained during the core hours of the day suggests that commuting traffic is not the only major influence in this area and that traffic is generally steady throughout the day. It should be noted that these hourly variation figures from 2011 and 2012 reflect existing travel patterns and may change once the Broad Street Parkway is constructed.

Figure 5 Hourly Volumes - Main Street North of Hollis Street

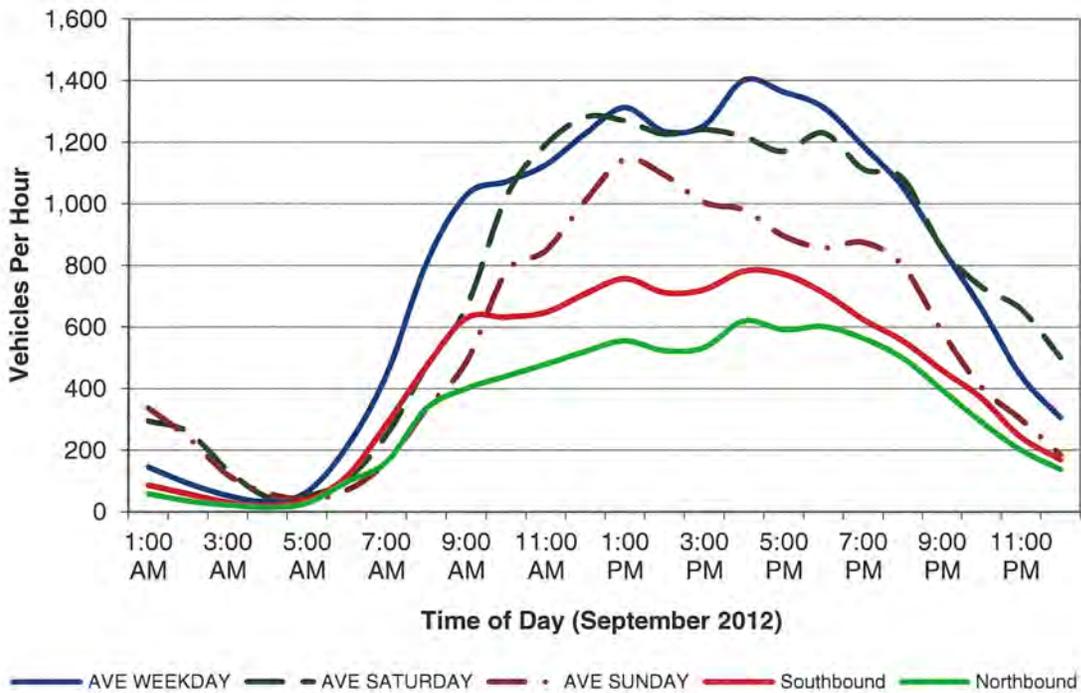


Figure 6 Hourly Volumes - East Hollis Street East of Main Street

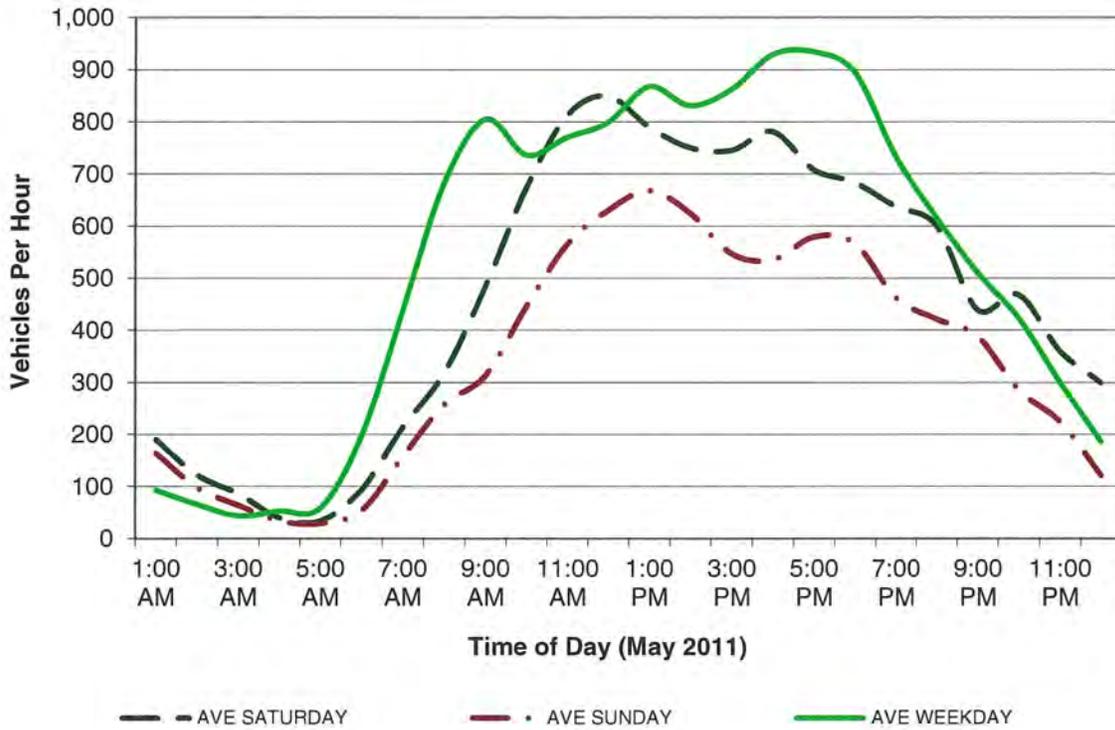
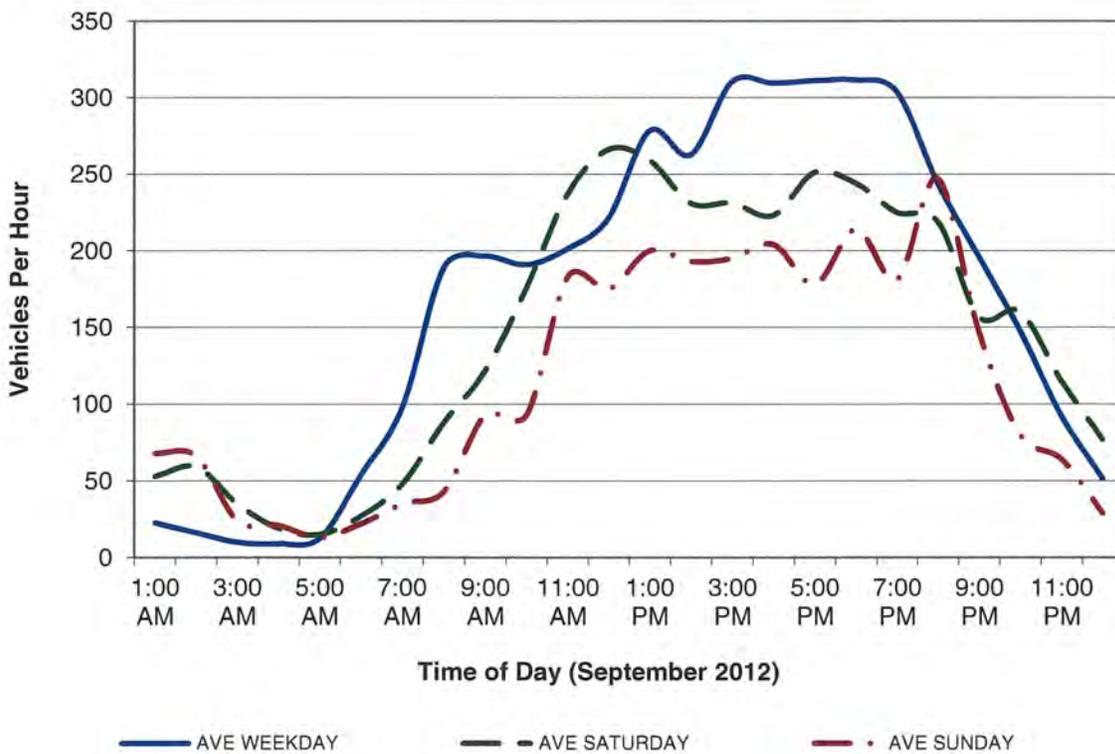


Figure 7 Hourly Volumes - Chestnut Street North of West Hollis Street



■ 2.3.2 Seasonal Variation

The New Hampshire Department of Transportation (NHDOT) “Policy Relating to Driveways and Access to the State Highway System” requires that traffic studies consider traffic operations based on “peak month” conditions. This methodology provides a conservative approach to traffic forecasting for situations where studies can ultimately result in the design of roadway or intersection improvements. For this reason, the traffic volume data used for this evaluation were adjusted to reflect a peak month. Historical traffic data from nearby NHDOT permanent count stations were reviewed to determine seasonal traffic variations throughout the City of Nashua. The data indicates that June typically represents the peak month condition. Therefore, the weekday peak hour traffic volumes collected in January were increased by 15 percent to reflect June conditions. Historical traffic data was adjusted to reflect June conditions as necessary.

Base condition traffic volume networks were developed for the 2017 weekday morning and weekday evening peak hours using the traffic volumes counts conducted for the study, historical traffic data, and the completion of the Broad Street Parkway. Worst case morning and evening peak hour networks were developed using the individual location peak hours to provide a conservative analysis. **Figures 8 and 9** depict the 2017 traffic volume networks for the weekday morning and evening peak hours, respectively. The 2017 volumes are considered the existing or No Build conditions for the purpose of this report.

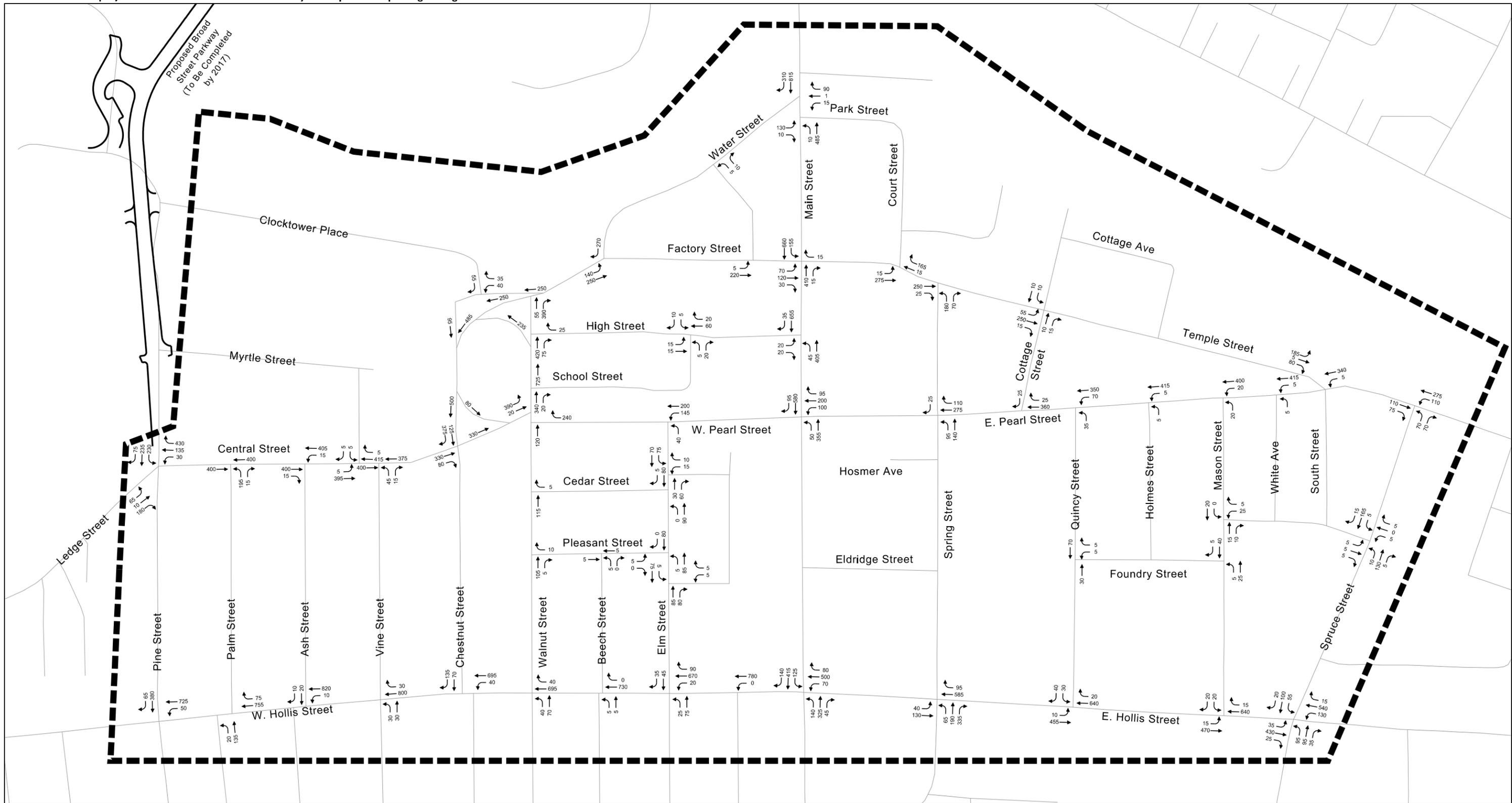
■ 2.3.3 No Action Traffic Operations

Measuring the volume of traffic throughout the study area roadways and intersections quantifies the vehicular traffic demand, but does not give an indication of the quality of traffic flow. To assess the quality of traffic flow, capacity analyses were conducted to determine how well the intersections serve the traffic demands placed upon them during peak hours. The evaluation criteria used in the operational analyses is based on the methodology presented in the 2000 Highway Capacity Manual¹.

The primary result of an intersection capacity analysis is the assignment of level of service (LOS), which is a qualitative measure describing operational conditions. The capacity analysis utilizes factors such as speed and travel time, density or freedom to maneuver, traffic interruptions, comfort, and convenience to provide an index to quality of traffic flow. Six levels of service are defined ranging in letter designation from LOS A to LOS F, with LOS A representing the best operating conditions and LOS F representing the worst.



¹ 2000 Highway Capacity Manual, Transportation Research Board, Washington, D.C.



LEGEND

— — — — — General Study Area Limits

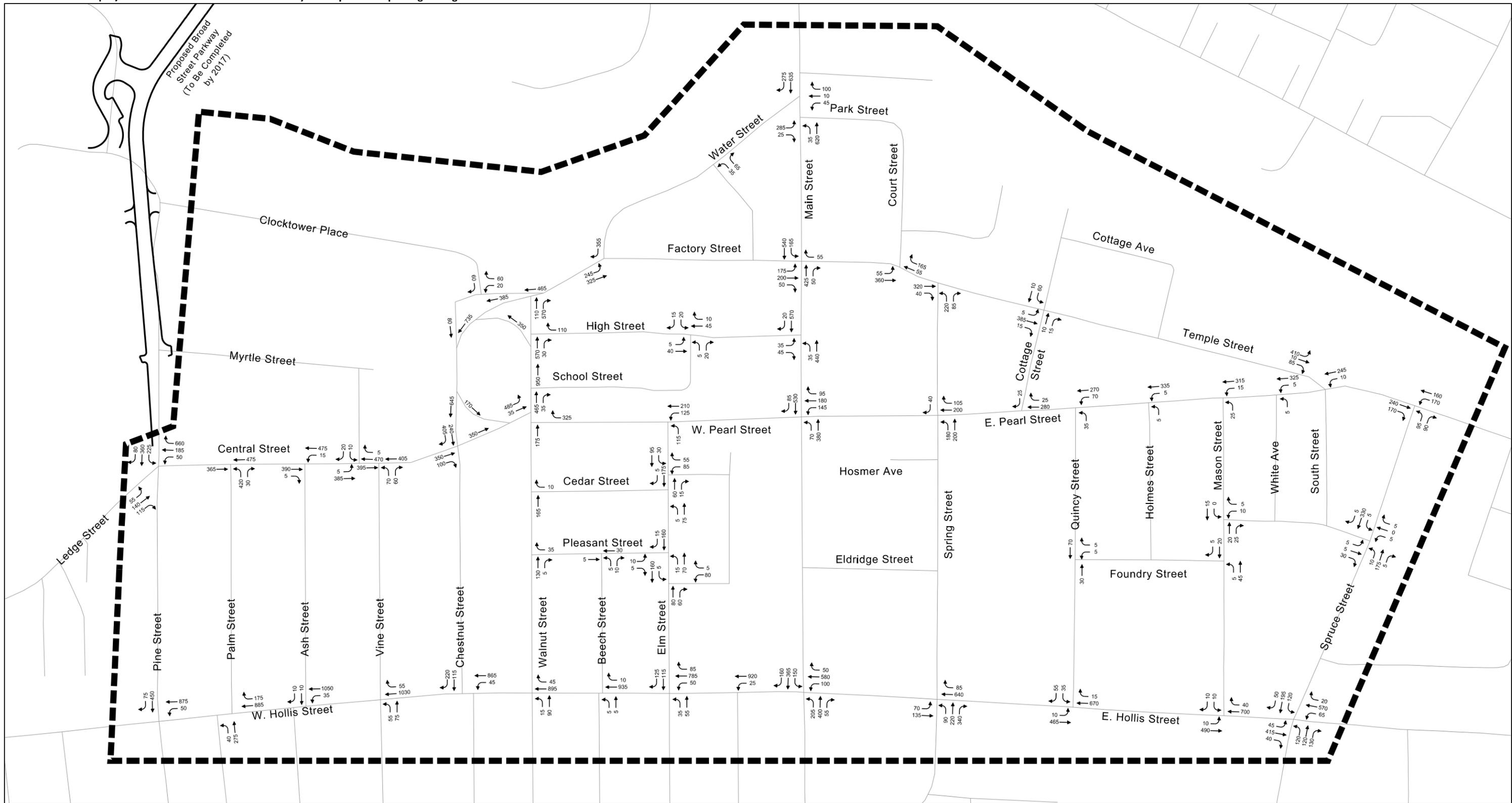


Figure 8

2017 Weekday Morning Peak Hour Traffic Volumes

(Including construction of the Broad Street Parkway)



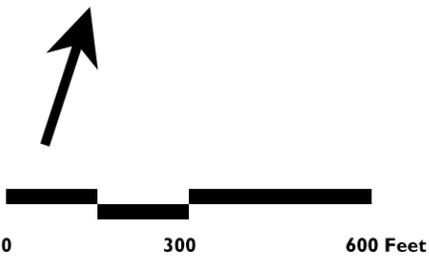


LEGEND

— General Study Area Limits



Figure 9
2017 Weekday Evening
Peak Hour Traffic Volumes
(Including construction of the
Broad Street Parkway)



The level of service designation is reported differently for signalized and unsignalized intersections. For signalized intersections, the analysis considers the operation of all traffic entering the intersection and the level of service designation is for the overall conditions at the intersection. Unsignalized intersection analyses assume that through traffic on the main line is not affected by traffic on the side streets. Thus, LOS designations are for the turning movements at the intersections and not for the overall intersection.

Figure 10 summarizes the results of the level of service analyses for the study area intersections, which are also documented by volume-to-capacity (v/c) ratio and average delay in Tables 1 and 2. It is noted that the intersections of Central Street/Ledge Street at Pine Street and Central Street at Palm Street are currently unsignalized intersections. As part of the Broad Street Parkway construction, the intersections will be placed under traffic signal control. Traffic operational analyses were completed for the baseline (with Broad Street Parkway) weekday morning and weekday evening peak hours.

2.3.3.1 Signalized Intersections

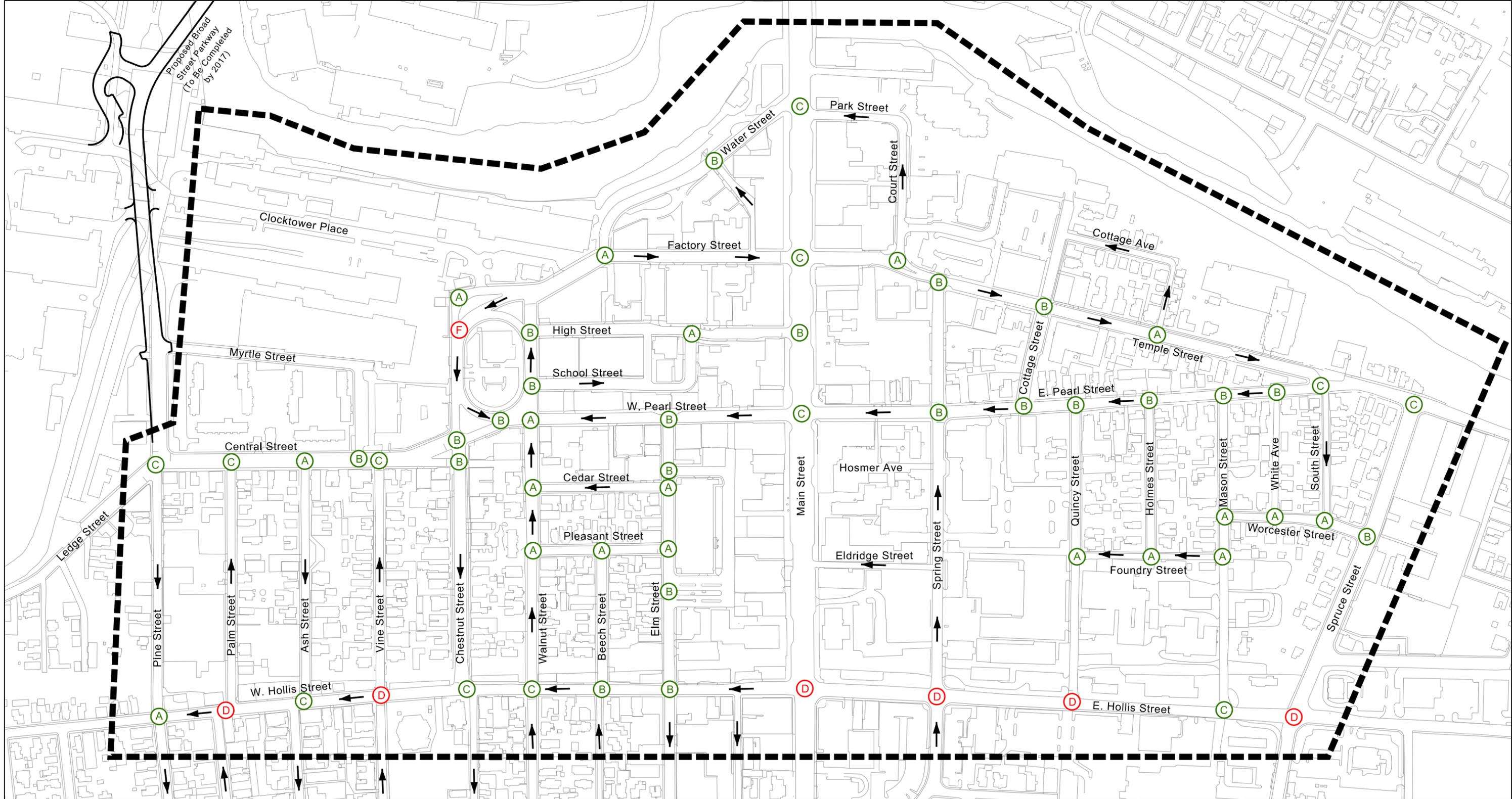
All study area signalized intersections are part of a signal system with time-based coordination plans. The timing used for the signalized intersection analysis comes from the Nashua Citywide Traffic Signals at Various Locations Project (2012) for the majority of the signals. The Central Street intersections with Pine Street and Palm Street are expected to be integrated into the signal system as part of the Broad Street Parkway construction project (plans are currently under development) and therefore intersection timings have been assumed that complement the system timings at adjacent signalized intersections.

The results of the traffic operational capacity analyses reveal that of the eleven signalized intersections, seven operate at good levels of service (LOS C or better) during both peak periods. The signalized intersections expected to operate at LOS D during one or more peak periods include East Hollis Street at Spring Street/Medical Center Drive, East Hollis Street at Spruce Street/Harbor Avenue, Main Street at East/West Hollis Street, and West Hollis Street at Palm Street. Only East Hollis Street at Spruce Street/Harbor Avenue operates at LOS D under both peak hour periods. None of the study area signalized intersections are forecast to operate at poor levels of service (LOS E or F) under the baseline condition *with construction of the Broad Street Parkway*.

2.3.3.2 Signalized Intersections (Pre-Broad Street Parkway)

Additionally, note that previous² traffic operational analyses of the pre-Broad Street Parkway condition show poor levels of service (D or worse) along Main Street at several of the study area's signalized intersections during one or more of the peak hour conditions. These Main Street intersections include the following:

▼
² Traffic Operational Analyses in support of the "Broad Street Parkway Final Environmental Impact Statement", January 2010, and "Engineering Study" for Nashua #14432, X-A000(372) CMAQ Citywide Traffic Signals at Various Locations, March 13, 2012.



LEGEND

-  General Study Area Limits
-  Directional Traffic Flow
-  Level of Service (C or better)
-  Level of Service (D or worse)

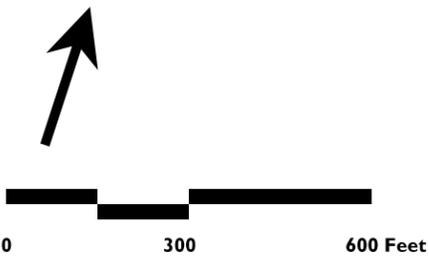


Figure 10

2017 Existing Level of Service Summary

- Water Street/Park Street (LOS E),
- Factory Street/Temple Street (LOS D), and
- East/West Pearl Street (LOS D).

Poor operating conditions are further reflected at the following Main Street signalized intersections located just north of the study area:

- Franklin Street/Canal Street (LOS E), and
- Library Hill, Amherst Street/Lowell Street/Concord Street (LOS E/F).

As shown in the **Table 1**, the above listed Main Street intersections are forecast to improve by at least one level of service with the construction of the Broad Street Parkway (which draws traffic away from Main Street as an optional north/south arterial). A similar level of service improvement (by one level) is also forecast for signalized intersections (i.e., Franklin Street/Canal Street and Library Hill to LOS D) located outside the Downtown circulation study area.

Table 1
Signalized Intersection Analysis Summary

		2017 No Action		
		v/c*	Delay**	LOS***
Pine Street at Ledge Street/Central Street	AM	0.50	24	C
	PM	0.56	23	C
West Hollis Street at Pine Street	AM	0.45	3	A
	PM	0.51	3	A
Main Street at Water Street/Park Street	AM	0.51	18	B
	PM	0.52	25	C
Main Street at Factory Street/Temple Street	AM	0.38	16	B
	PM	0.46	26	C
Main Street at East/West Pearl Street	AM	0.50	21	C
	PM	0.47	22	C
Main Street at East/West Hollis Street	AM	0.54	29	C
	PM	0.69	45	D
West Hollis Street at Elm Street	AM	0.41	8	A
	PM	0.48	11	B
East Hollis Street at Spring Street	AM	0.39	28	C
	PM	0.42	43	D
East Hollis Street at Spruce Street	AM	0.60	35	D
	PM	0.74	51	D
West Hollis Street at Palm Street	AM	0.58	29	C
	PM	0.78	46	D
Central Street at Palm Street	AM	0.38	23	C
	PM	0.44	19	B

* Volume to Capacity Ratio.

** Delay in seconds per vehicle

*** Level of service.

2.3.3.3 Unsignalized Intersections

As summarized in **Table 2**, most of the unsignalized intersections have turning movements operating at good levels of service (LOS C or better) during the peak hours. However, three intersections have one or more side street approaches operating at LOS D or worse. The Quincy Street stop-controlled approach to East Hollis Street operates at LOS D during the weekday evening peak hour. The Vine Street stop-controlled northbound approach to West Hollis Street operates at LOS D during the weekday evening peak hour. Finally, the Chestnut Street intersection with Factory Street (which is part of the Walnut Street Oval) operates at LOS F during the weekday evening. All of these poor levels of service occur on the minor legs of unsignalized intersections where long delays are a result of the high through volumes on the major intersection legs, making it challenging for side street motorists to enter onto major roadways.

Table 2
Unsignalized Intersection Analysis Summary

		2017 Weekday Morning			2017 Weekday Evening		
		Demand*	Delay**	LOS***	Demand	Delay	LOS
Central St. at Ash St.	Central St WB	520	1	A	490	1	A
Pleasant St. at Elm St.	Pleasant St EB	5	9	A	15	10	A
	Elm St NB	90	1	A	85	1	A
School St. at Walnut St.	School St EB Left Turns	260	12	B	323	14	B
	School St EB Left-Through	150	11	B	197	13	B
West Hollis St. at Ash St.	W Hollis St WB	830	1	A	1085	1	A
	Ash St SB	30	16	C	20	18	C
Central St. at Vine St.	Vine St NB	60	15	B	130	16	C
Chestnut St. at Central St. (driveway)	Central St EB	85	9	A	105	10	A
	Chestnut St SB	125	0	-	240	10	B
West Hollis St. at Walnut St.	Walnut St NB	110	15	B	105	19	C
Main St. at High St	High St EB	40	13	B	80	12	B
	Main St NB Left Turns	45	9	A	35	9	A
School St. at School St. Merge	School St (Merge) EB	80	10	A	170	10	B
Worcester St. at South St.	South St SB	10	9	A	20	9	A
Chestnut St. at School St. Merge	Chestnut St SB Left Turns	53	7	A	113	8	A
	Chestnut St SB Left-Through	193	1	A	272	2	A
West Pearl St. at Walnut St.	W Pearl St WB Right Turns	240	8	A	325	9	A
	Walnut St NB	120	7	A	175	8	A
Central St. at Myrtle St.	Central St EB	400	1	A	390	1	A
	Myrtle St SB	10	13	B	30	13	B
Chestnut St. at Factory St.	Chestnut St SB	95	32	D	80	152	F
	Factory St SW	485	8	A	735	9	A
Chestnut St. at Central St.	Chestnut St SB	500	10	B	645	11	B
	Central St EB	330	10	A	350	10	B

* Demand in vehicles per hour.

** Delay per vehicle expressed in seconds.

*** Level of service.

Table 2 Continued
Unsignalized Intersection Analysis Summary

		2017 Weekday Morning			2017 Weekday Evening		
		Demand*	Delay**	LOS***	Demand	Delay	LOS
Walnut St. at High St.	High St WB Right Turns	25	9	A	110	10	B
	Walnut St NB	730	6	A	920	6	A
Pleasant St. at Walnut St.	Pleasant St WB Right Turns	10	9	A	35	9	A
West Hollis St. at Chestnut St.	W Hollis St WB	735	1	A	910	1	A
	Chestnut St SB	205	14	B	335	17	C
Factory St. at Walnut St. Merge	WB Left Turns	235	12	B	350	16	C
Worcester St. at Spruce St.	Worcester St EB	15	10	A	40	11	B
	Worcester St WB	10	10	A	10	10	B
	Spruce St NB	145	1	A	185	1	A
	Spruce St SB	185	0	A	340	1	A
Factory St. at Water St.	Factory St EB	390	3	A	570	4	A
	Water St SB	270	10	A	355	10	A
Clocktower Place Merge	Clocktower Place SB	55	9	A	60	9	A
East Pearl St. at Spring St.	E Pearl St WB	385	11	B	305	11	B
	Spring St NB Left Turns	95	9	A	180	10	A
	Spring St SB Right Turns	25	8	A	40	8	A
Cedar St. at Elm St.	Elm St NB	90	0	-	80	1	A
Walnut St. at Cedar St.	Cedar St WB Right Turns	5	9	A	10	9	A
West Hollis St. at Vine St.	Vine St NB	60	16	C	130	29	D
Temple St. at Spruce St.	Temple St WB	385	3	A	330	5	A
	Spruce St NB	140	14	B	185	21	C
Foundry St. at Quincy St.	Foundry St WB	10	9	A	10	9	A
Foundry St. at Mason St.	Mason St NB	30	1	A	50	1	A
East Pearl St. at Holmes St.	E Pearl St WB	420	1	A	340	1	A
	Holmes St NB Left Turns	5	11	B	5	11	B

* Demand in vehicles per hour.

** Delay per vehicle expressed in seconds.

*** Level of service.

Table 2 Continued
Unsignalized Intersection Analysis Summary

		2017 Weekday Morning			2017 Weekday Evening		
		Demand*	Delay**	LOS***	Demand	Delay	LOS
Foundry St. at Holmes St.	Holmes St SB Right Turn	5	8	A	5	8	A
East Pearl St. at Mason St.	E Pearl St WB	420	1	A	330	1	A
	Mason St NB Left Turn	20	12	B	25	11	B
Worcester St. at Mason St.	Worcester St WB	30	9	A	15	9	A
Worcester St. at White Ave.	White Ave SB	5	8	A	5	8	A
East Pearl St. at White Ave.	E Pearl St WB	420	1	A	330	1	A
	White Ave NB Left Turn	5	11	B	5	11	B
East Pearl St. at Temple St.	Temple St WB	345	1	A	255	1	A
	Temple St SB	270	15	C	505	23	C
Temple St. at Cottage St.	Temple St EB	320	2	A	405	1	A
	Cottage St NB	25	11	B	25	11	B
	Cottage St SB	20	12	B	70	13	B
East Pearl St. at Quincy St.	E Pearl St WB	420	2	A	340	2	A
	Quincy St NB Left Turn	35	13	B	35	12	B
East Pearl St. at Cottage St.	Cottage St SB Right Turn	25	11	B	25	10	A
Temple St. at Spring St.	Spring St NB	250	12	B	305	14	B
Temple St. at Cottage Ave	Temple St EB	275	1	A	450	1	A
Cottage St. at Cottage Ave	Cottage Ave WB	5	9	A	5	9	A
East Hollis St. at Quincy St.	E Hollis St EB	465	1	A	475	1	A
	E Hollis St WB	660	0	A	710	1	A
	Quincy St SB	70	23	C	90	29	D
East Hollis St. at Mason St.	E Hollis St EB	485	1	A	500	1	A
	Mason St SB	40	20	C	20	22	C
Spring St. at Hosmer Ave	Hosmer Ave EB	5	10	A	5	10	A
	Spring St NB	255	2	A	375	0	A

* Demand in vehicles per hour.

** Delay per vehicle expressed in seconds.

*** Level of service.

Table 2 Continued
Unsignalized Intersection Analysis Summary

		2017 Weekday Morning			2017 Weekday Evening		
		Demand*	Delay**	LOS***	Demand	Delay	LOS
Temple St. at Court St.	Temple St EB	290	1	A	415	1	A
Church St. at Court St.	Church St WB Right Turn	10	9	A	50	9	A
Elm St. at Garden St. (north)	Garden St WB	25	11	B	140	10	B
	Elm St SB	145	4	A	125	2	A
Elm St. at Garden St. (south)	Garden St WB	10	9	A	85	11	B
	Elm St SB	80	1	A	165	1	A
Pleasant St. at Beech St.	Beech St NB	5	9	A	15	9	A
West Hollis St. at Beech St.	Beech St NB	10	11	B	10	13	B
School St. at High St.	High St EB	30	4	A	45	1	A
	School St NB Left Turn	5	9	A	5	9	A
	School St NB Right Turn	20	8	A	20	8	A
	Garage SB Left Turn	5	9	A	20	9	A
	Garage SB Right Turn	10	9	A	15	9	A
Water St. at Mechanic St.	Mechanic St WB	15	10	A	100	12	B
West Pearl St. at Elm St.	W Pearl St WB Left Turn	145	7	A	125	7	A
	Elm St NB Right Turn	40	13	B	115	14	B
Pine St. at Bagshaw Building	Bagshaw Bldg. EB	25	13	B	65	14	B
	Clocktower WB Left-Thru	35	15	C	45	20	C
	Clocktower Pl WB Right	25	11	B	65	15	B
	Pine St NB Left Turn	30	9	A	20	9	A
	Pine St SB Left Turn	30	8	A	30	9	A
Pine St. at Green Building S. Drive	Gate City Dr EB	10	13	B	20	15	C
	Green Bldg. WB	5	14	B	25	16	C
	Pine St NB Left Turn	15	9	A	10	9	A
	Pine St SB Left Turn	10	8	A	5	9	A
Pine St. at Myrtle St.	Saigon Market EB	20	13	B	25	16	C
	Myrtle St WB	25	13	B	25	15	C
	Pine St NB	495	1	A	715	1	A
	Pine St SB	540	1	A	665	1	A

* Demand in vehicles per hour.

** Delay per vehicle expressed in seconds.

*** Level of service.

■ 2.3.4 Crash Evaluation

Crash data for the years 2002 through 2010 were gathered for selected locations from the NHDOT crash database. The data was reviewed to identify high crash locations within the study area and the characteristics of the crashes occurring at these locations. **Table 3** provides a summary of the crash history. Note that crashes reported for the intersections of Pine Street with Central Street and West Hollis Street are before Pine Street became one-way southbound as part of improvements for the Broad Street Parkway.

A total of 402 crashes occurred at the selected locations during the nine-year period. This equates to an average of 45 crashes per year (with a high crash total of 80 in 2006 and a low of 22 in 2005). Fifty percent of the crashes resulted in a personal injury with the other fifty percent resulting in only property damage. No fatalities were identified and of the injury related crashes, only six were identified as resulting in a severe injury.

The majority of crashes were identified as general motor vehicle crashes (76 percent) with some rear-end (5 percent), sideswipe (1 percent), and angled (6 percent) crashes also identified. The remaining crashes include fixed object crashes, bicycle crashes, and pedestrian crashes. Crashes with vulnerable road users (pedestrians and bicyclists) make up 9 percent of the total crashes.

There were 26 (6 percent) pedestrian related crashes. No discernible pattern is present for locations where pedestrian crashes occur, but there were five intersections out of fifteen locations where more than one pedestrian crash occurred. The Main Street intersection at West Hollis Street/East Hollis Street identified the most with eight pedestrian crashes. Note that this intersections experiences the highest volume of traffic in relation to pedestrian crossings. Additionally, 18 of the 26 (70 percent) pedestrian/vehicle related crashes occurred at signalized intersections that have pedestrian crossing signals. Crash data was inconclusive as to whether these crashes at the signalized intersections were a result of pedestrian crossings against the solid "Don't Walk" signal.

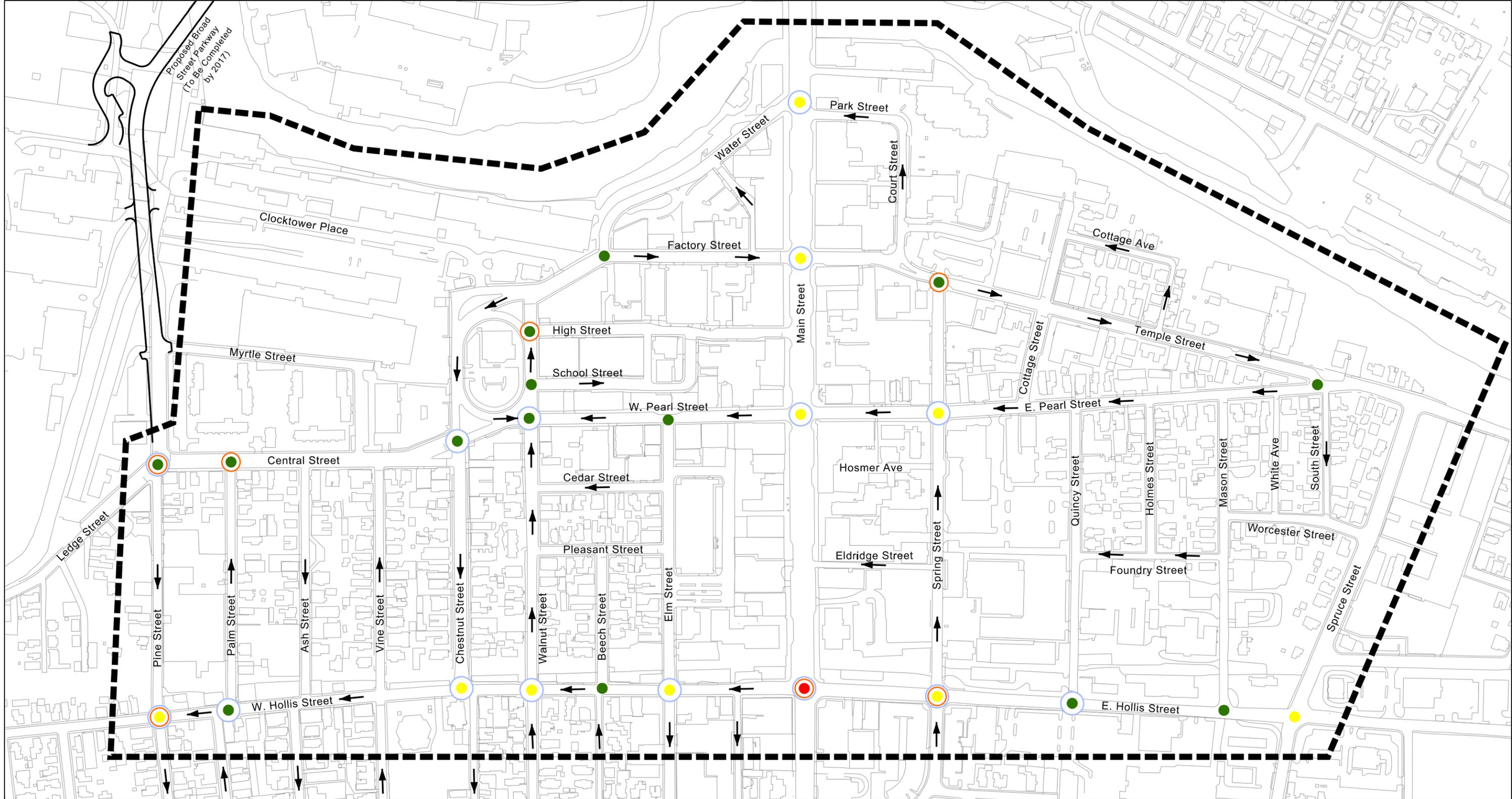
Twelve bicycle crashes occurred at seven intersections. The signalized East Hollis Street intersection at Spring Street had four bicycle crashes. None of the bicycle crashes were in areas where there are existing bike lanes or multi-use paths.

Figure 11 illustrates the average number of crashes per year. The Main Street intersection at West Hollis Street/East Hollis Street has the most reported crashes. With an average of more than 10 crashes per year, 96 crashes were reported at the Main Street intersection with West Hollis Street/East Hollis Street. While this intersection has the most identified crashes, it also experiences the highest volume of traffic in the study area. No type of crash or trend was identified through the available records at this location. **Figure 11** also identifies 10 locations where crash history is between one and five crashes per year and 14 locations where less than one crash per year has been reported. The only general pattern observed from the crash data is that locations with more traffic control, traffic signals and all-way stop control, experience larger numbers of crashes.

**Table 3
Crash Summary**

INTERSECTION	INTERSECTION																		TOTAL	PERCENT								
	Main St at Park St / Water St	Main St at Factory St / Temple St	Main St at West Pearl St / East Pearl St	Main St at West Hollis St / East Hollis St	East Hollis St at Spring St	East Hollis St at Quincy St	East Hollis St at Mason St	East Hollis St at Harbor Ave / Spruce	West Hollis St at Elm St	West Hollis St at Beech St	West Hollis St at Walnut St	West Hollis St at Chestnut St	West Hollis St at Palm St	West Hollis St at Pine St	East Pearl Street at Spring Street	Water St at Factory St	Central St at Palm St	Central St at Pine St			Walnut St at High St	Walnut St at School St	Temple St at Spring St	Central St at Chestnut St	Temple St at East Pearl St	West Pearl St at Elm St	West Pearl St at Walnut St	
YEAR																												
2010	6	10		15	6			4	5		1			3	2		1			1							59	15%
2009	9	7	3	17	1	1		1	6		1	2		6	2	1	1			1	1		1	1	1	1	61	15%
2008	6	2	9	13	4		1	3	1	1	1	1	1	2	1	1		1						1		48	12%	
2007	1	7	3	11	9			1	3		2	2		3	2	1		1	1					1		48	12%	
2006	6	10	4	13	13	1	1	6	2	1	1	3		7	3		1	3		1	2	1	1			80	20%	
2005	2	1	1	5	6	1		2	1		2	1														22	5%	
2004		2	2	6	3	1	1	3	2		1	1		3	3			1								29	7%	
2003		2		6		1	2	1	1		1	3	1	5	1			1		1						26	6%	
2002	1	2	10	1			3	3	1		3	2		2											1	29	7%	
Total	30	42	24	96	43	5	8	24	22	1	13	15	2	31	14	3	3	7	1	3	3	4	4	2	2	402	100%	
TYPE																												
Other Motor Vehicle	26	39	21	69	34	4	4	19	16	1	8	9	1	19	10	2	2	5		3	2	3	4	2	1	304	76%	
Rear-end		1	2	9	1		2	3			1	1		2												22	5%	
Angle		1		5	1		2	1	4		3	2		4	2											25	6%	
Sideswipe												1		2												3	1%	
Bicyclist				3	4									1			1	1	1		1					12	3%	
Pedestrian	2	1	1	8	1	1			2		1	2	1	1	2			1				1			1	26	6%	
Fixed Object/ Other Object	2		2	2			1							2		1										10	2%	
Total	30	42	24	96	43	5	8	24	22	1	13	15	2	31	14	3	3	7	1	3	3	4	4	2	2	402	100%	
SEVERITY																												
Property Damage	17	26	12	46	24	1	1	11	6		3	6	1	18	10	3	1	2		2	2	2	3	2	1	200	50%	
Severe Injury			1	1					1		1	1		1												6	1%	
Non-incapacitating Injury	9	9	8	29	14	3	2	5	11	1	6	4		10	2											113	28%	
Possible Injury	4	7	3	20	5	1	5	8	4		3	4	1	3	1											69	17%	
Personal Injury																	2	5	1	1	1	2	1		1	14	3%	
Fatality																										0	0%	
Total	30	42	24	96	43	5	8	24	22	1	13	15	2	31	14	3	3	7	1	3	3	4	4	2	2	402	100%	
DAY OF WEEK																												
Mon-Fri	27	31	16	71	32	5	6	18	19	1	9	11	2	27	13	2	1	4	1	2	3	3	4	2	1	311	77%	
Sat-Sun	3	11	8	25	11		2	6	3		4	4		4	1	1	2	3		1		1			1	91	23%	
Total	30	42	24	96	43	5	8	24	22	1	13	15	2	31	14	3	3	7	1	3	3	4	4	2	2	402	100%	
SURFACE CONDITION																												
Dry	23	33	21	65	33	5	5	17	15		7	11	2	27	11	3	3	7	1	3	3	4	4	1	2	306	76%	
Wet	5	9	3	27	6		3	6	6	1	6	2		3	3									1		81	20%	
Snow / Ice	2			4	3			1			2			1												13	3%	
Other/ Unknown					1			1																		2	0%	
Total	30	42	24	96	43	5	8	24	22	1	13	15	2	31	14	3	3	7	1	3	3	4	4	2	2	402	100%	
WEATHER																												
Clear/ Cloudy	24	36	22	81	34	5	5	17	18		8	13	2	30	12	3	3	7	1	3	3	4	4	1	2	338	84%	
Rain	5	6	2	12	7		3	6	4	1	5	1		1	2										1	56	14%	
Snow / Ice	1			2	1			1			1															6	1%	
Other/ Unknown				1	1																					2	0%	
Total	30	42	24	96	43	5	8	24	22	1	13	15	2	31	14	3	3	7	1	3	3	4	4	2	2	402	100%	
LIGHTING																												
Daylight	24	23	16	43	31	4	6	18	14	1	7	11	1	26	13	1	3	4	1		3	4	3	1		258	64%	
Dawn				2	1			1																		4	1%	
Dusk				1							1							1								3	1%	
Dark - Street Lights On	6	18	8	46	11	1	2	5	5		5	3		5	1	1		2		3					2	124	31%	
Other/ Unknown		1		4				1	2		1	1				1							1	1		13	3%	
Total	30	42	24	96	43	5	8	24	22	1	13	15	2	31	14	3	3	7	1	3	3	4	4	2	2	402	100%	
SEASON																												
Winter (Dec-Feb)	5	6	8	24	17		1	3	4		2	5		7	4	1				3		2	2		1	95	24%	
Spring (Mar-May)	6	6	2	21	12	1	5	5	5		3	2	1	8	4	1		2			1	1	1	1		88	22%	
Summer (Jun-Aug)	7	18	10	23	7		1	11	6	1	3	4	1	5	3		3	1	1		1	1				107	27%	
Fall (Sept-Nov)	12	12	4	28	7	4	1	5	7		5	4		11	3	1		4			1		1	1	1	112	28%	
Total	30	42	24	96	43	5	8	24	22	1	13	15	2	31	14	3	3	7	1	3	3	4	4	2	2	402	100%	

Source: New Hampshire Department of Transportation.



LEGEND

-  General Study Area Limits
-  Directional Traffic Flow
-  Pedestrian Crash
-  Bike Crash
-  ≤1 Crashes per year
-  1-5 Crashes per year
-  ≥5 Crashes per year

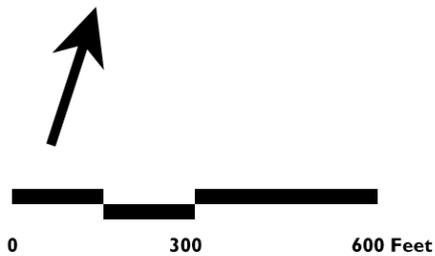


Figure 11

Crash Summary
(2002 - 2010)

2.4 Existing Conditions Summary

A review of existing conditions revealed a vibrant and thriving Downtown. Traffic volume demand is high, not only during the peak commuter hours, but throughout the day. Traffic flow is controlled along the major arterials of Main Street, West Hollis Street, and East Hollis Street by a total of nine traffic signal controlled intersections. Additionally, as part of the Broad Street Parkway project, two new traffic signals will be installed at the Central Street/Pine Street and Central Street/Palm Street intersections.

The results of the operational analyses, with the Broad Street Parkway in place, indicate that each of the signalized intersections are expected to operate acceptably (LOS D or better). Similarly, the results of the evaluation show acceptable operating conditions at the unsignalized study area intersections with the exception of the Walnut Street Oval which revealed an LOS F operation during the weekday evening peak hour.

The most dominating feature of the Downtown's existing roadway network is the presence of numerous one-way streets. Factory Street and Temple Street form a one-way east-west couplet with East Pearl Street and West Pearl Street. Similarly, West Hollis Street forms a one-way east-west couplet with Kinsley Street. There are also numerous north-south one-way couplets such as Pine Street with Palm Street, Ash Street with Vine Street, and Chestnut Street with Walnut Street. Other one-way streets include School Street, Cedar Street, Eldridge Street, Spring Street, Foundry Street, South Street, Cottage Avenue, Court Street, and Park Street.

The Downtown is well served by public transportation with the Nashua Transit Center located on Elm Street in the heart of the Downtown. The Nashua Transit System runs Citybus (a daytime fixed route service); After 7 (an evening fixed route service); and City Lift (a paratransit senior citizen service, with routes throughout the Downtown).

Pedestrian mobility is accommodated primarily with the presence of sidewalks, crosswalks, pedestrian phase actuation at traffic signal controlled intersections, and off-road facilities such as the Nashua Heritage Rail Trail and the Nashua Riverwalk. Sidewalks are provided along nearly all streets within the study area with only minor exceptions. Crosswalks are present at major roadway intersections while midblock crossings are present along East Pearl Street, Main Street, Temple Street, Pine Street, and Palm Street.

The Nashua Heritage Rail Trail, which runs parallel to West Hollis Street, provides access to both pedestrians and bicyclists. While the trail has some roadway crossings, it provides an important alternative to the high traffic volume route of West Hollis Street.

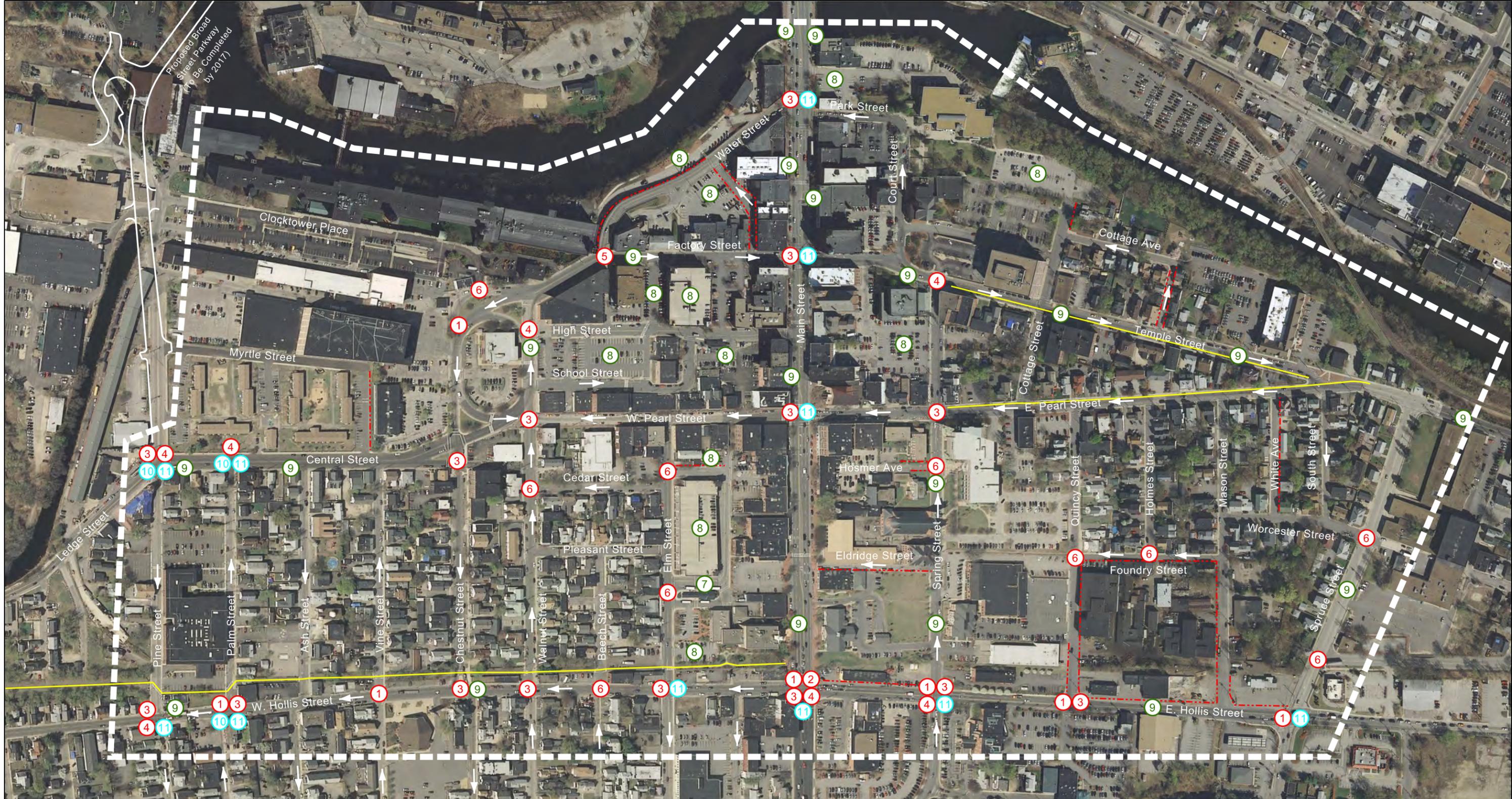
Other than the Nashua Heritage Rail Trail, there are few defined bicycle facilities within the study area. Defined bicycle lanes are provided on Temple Street, between Spring Street and East Pearl Street, and on East Pearl Street, between Spring Street and Temple Street. Bicycle lanes are marked and include both diamond and bicycle shaped identification markings. Bicycle shoulders are also provided along Pine

Street, Palm Street, and will be provided along the soon-to-be completed Broad Street Parkway.

Also, the Nashua Heritage Rail Trail and the defined bicycle lanes along such roadways as Temple Street and East Pearl Street are not well connected. This absence of connectivity tends to discourage recreational bicyclists and young bicyclists from using the existing bike facilities. Additionally, no bicycle racks were observed. However, the City has recently purchased bike racks as part of the City's sidewalk reconstruction project. The City is currently considering where best to locate the bike racks.

A review of crash data over the nine-year period of 2002 through 2010 showed the Main Street/West Hollis Street/East Hollis Street intersection to have the most reported crashes with an average of over 10 crashes per year. This intersection also showed the highest occurrence of pedestrian related crashes with a total of eight pedestrian related crashes over the nine-year period. Also of note, 70 percent of all pedestrian related crashes within the study area occurred at signalized intersections that have pedestrian crossing signals.

A summary of the existing conditions is depicted graphically in **Figure 12**.



LEGEND

- | | | | |
|--|--|--|--|
| | General Study Area Limits | | Directional Traffic Flow |
| Potential Area of Circulation Improvement | | | |
| | LOS D or worse for one or more approach or condition | | Bicycle crashes, noted in areas without bike lanes, facilities, or interconnectivity |
| | More than 5 crashes per year | | Turn restrictions - not related to one-way streets |
| | Pedestrian crashes | | No signed traffic control |
| | No Sidewalk | | Nashua Transit Center |
| | | | Public parking lots/garages |
| | | | Bus stops |
| | | | New geometry/control from Broad Street Parkway |
| | | | Traffic signal control |
| | | | Bike lane / multi-use path |

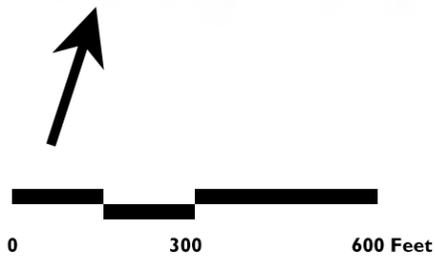


Figure 12
Existing Conditions Summary

3

Alternatives Evaluation

Having evaluated the existing conditions and having worked closely with city staff and city officials (May 2, 2013 Joint meeting of Board of Aldermen Committee on Infrastructure and Planning & Economic Development Committee) on defining study area problems, issues and constraints, and potential solutions, a range of alternatives were developed. Based on this initial input, the developed alternatives focused on opportunities to convert some of the many one-way streets to two-way flow. In addition, alternatives were developed that considered opportunities to reconfigure the Walnut Street Oval in an effort to both improve mobility and to encourage economic development. Once the initial alternatives evaluation was completed, the alternatives were presented to the public at a public workshop for additional input and consideration.

3.1 Conceptual Alternatives

The following sections describe the various alternatives that were brought to the April 30, 2014 public workshop. The alternatives include various configurations for the Walnut Street Oval, pedestrian enhancements for the Water Street area, considerations for converting several Downtown streets from one-way to two-way operation, and consideration of introducing concurrent pedestrian phasing at all Downtown traffic signals.

■ 3.1.1 Walnut Street Oval

Reconfiguring the Walnut Street Oval would not only afford the City an opportunity to enhance access to the Downtown from the west (complimenting the Broad Street Parkway), but it would also provide a tremendous opportunity to both encourage redevelopment and introduce a more pedestrian friendly appeal to the area. A range of reconfiguration alternatives were considered. Alternatives included reconfiguring the Walnut Street Oval into a grid pattern, reconfiguring into a more conventional

signal or roundabout in the southern or northern portion of the oval, and reconfiguring the Oval using two roundabouts.

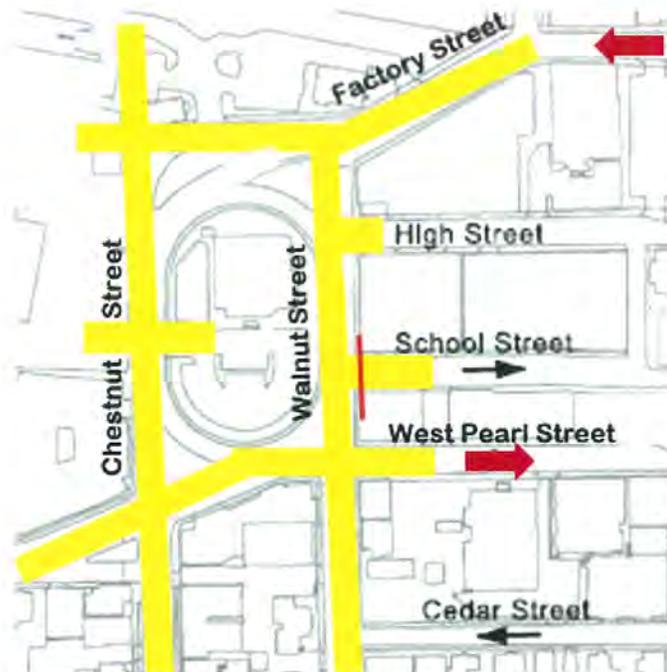


Figure 13: Walnut Street Oval Grid Pattern Circulation Alternative

Reconfiguring the Oval into a grid pattern would closely follow the existing roadway layout as shown in **Figure 13** while maintaining the building located in the center of the Oval. This would increase circulation between the western portions of the study area with Main Street particularly if combined with traffic flow modifications along West Pearl Street and Factory Street. This alternative would provide an important connection from the Broad Street Parkway entering the Mill Yard along Central Street, onto West Pearl Street and onto Main Street. However each intersection within the grid would require traffic control modifications. A combination of stop sign controlled and/or traffic signal controlled intersections may be required depending on the modified traffic volume patterns.

Reconfiguring the Walnut Street Oval into a single consolidated intersection at the southerly end of the existing Oval (near West Pearl Street) could be controlled by either a traffic signal or a roundabout. The traffic signal and roundabout configurations are depicted in **Figure 14**.

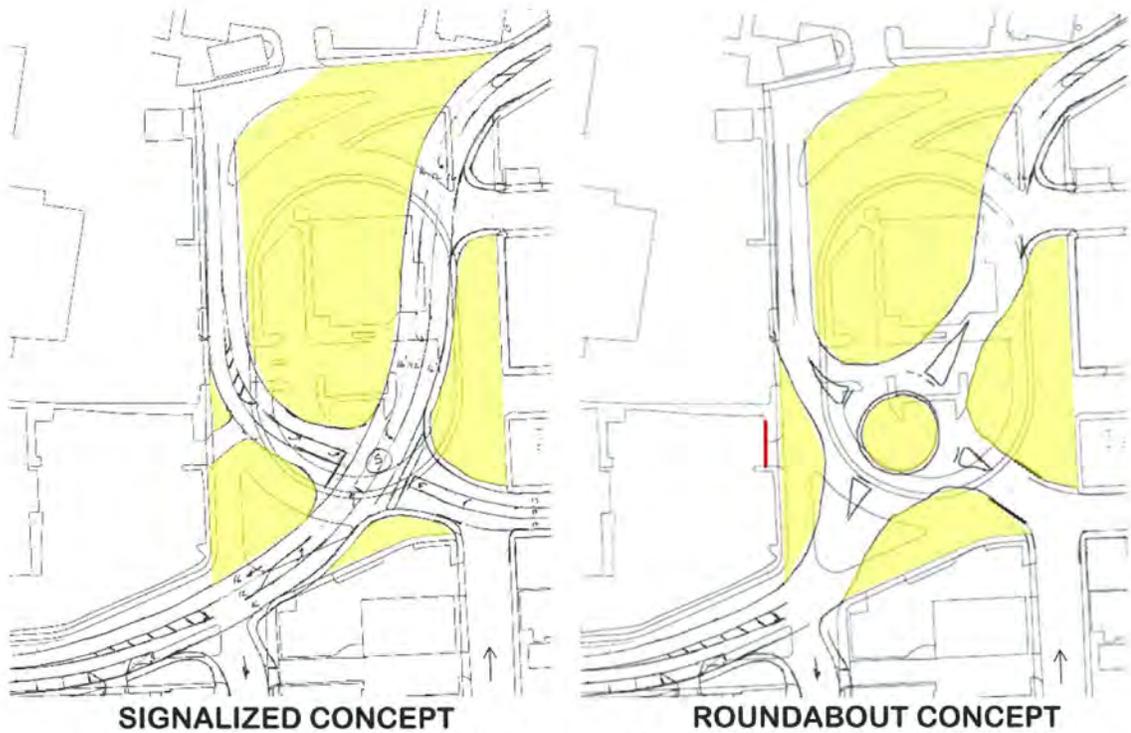


Figure 14: Walnut Street Oval Southern Consolidation Alternatives

Similarly, alternatives were developed and considered that create a single consolidated intersection at the northerly end of the existing Oval. Like the southerly options, this intersection could also be placed under traffic signal control or be constructed as a roundabout. The Northern Alternatives are shown in **Figure 15**. Note that one downside to the single consolidated intersection is that it limits direct access to side streets such as High Street and School Street. The consolidated northern intersection also limits the amount of available developable land.

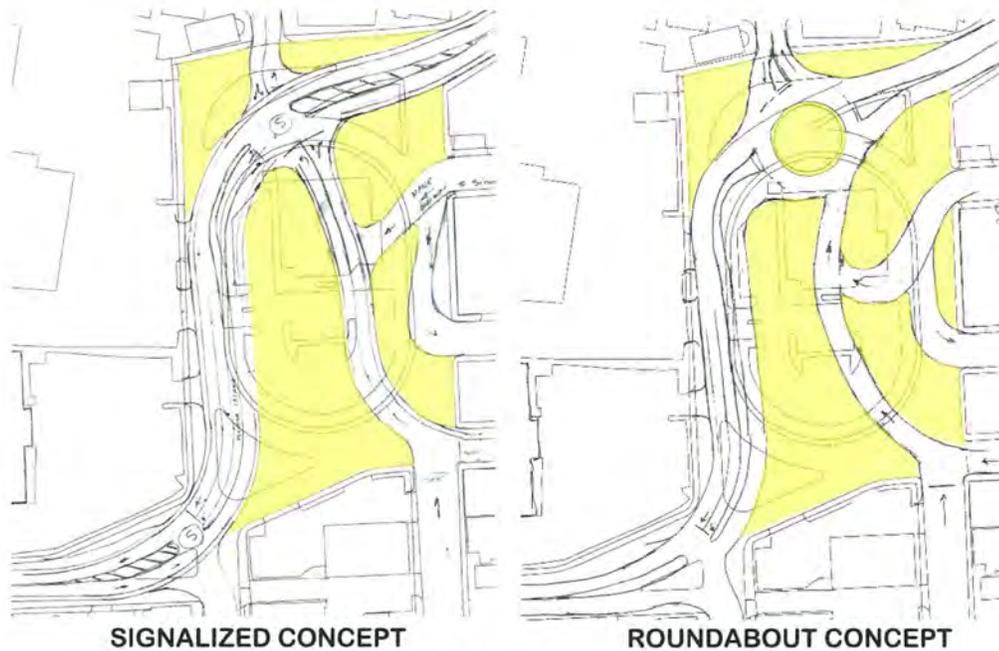


Figure 15: Walnut Street Oval Northern Consolidation Alternatives

Because the single consolidated intersection (both the northern concept and the southern concept) limit redevelopment opportunities, an additional set of configurations were developed. As shown in **Figure 16**, these concepts involve the construction of two roundabouts – one to the south near West Pearl Street and one to the north near High Street. The advantage of these configurations is that they leave substantial developable land that can serve to encourage redevelopment and economic opportunities.

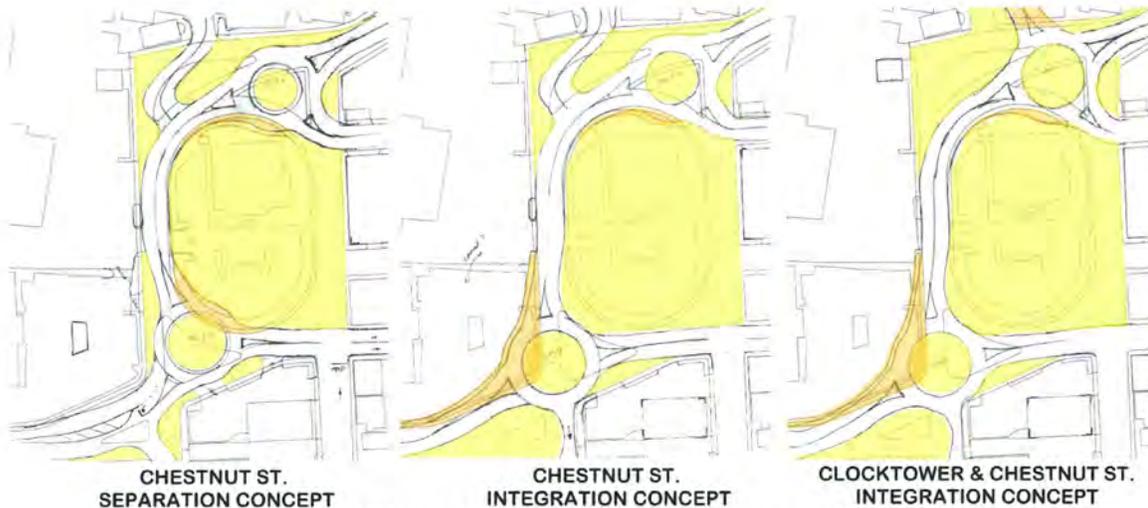


Figure 16: Walnut Street Oval Dual Roundabout Alternatives

The Chestnut Street Separation concept provides two 3-legged roundabouts, one in the north and one in the south. The northern roundabout combines High Street, Factory Street and Walnut Street while the southern roundabout combines Walnut Street Central Street and West Pearl Street. There is a T-intersection of Clocktower

Place with Walnut Street and a second T-intersection of Chestnut Street with Central Street. Of the concepts with two roundabouts, the Chestnut Street Separation concept results in the least amount of property impact with only the central oval property being encroached upon. However the T-intersection of Central Street and Chestnut Street is located in close proximity to the approach to the southern roundabout. Under current traffic flow patterns, Chestnut Street has a high southbound volume. These left-turns would be in conflict with the Central Street traffic. This would be an area of concern for an increase in conflicts, delay and confusion to drivers.

To address this issue, the Chestnut Street Integration Concept was developed. This eliminated the conflict for the Chestnut Street traffic by combining Chestnut Street into the southern roundabout in a 4-leg design. This concept results in property impacts to multiple properties.

Table 4 – Clocktower & Chestnut St Integration Concept Roundabout Analysis Summary

	North Roundabout				South Roundabout			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay**	LOS***	Delay	LOS	Delay	LOS	Delay	LOS
NB	5	A	7	A	N/A	N/A	N/A	N/A
WB	6	A	7	A	10	B	13	B
SB	5	A	6	A	8	A	12	B
EB	<u>8</u>	<u>A</u>	<u>8</u>	<u>A</u>	<u>10</u>	<u>A</u>	<u>13</u>	<u>B</u>
Overall	7	A	7	A	9	A	12	B

** Delay in seconds per vehicle.

*** Level of Service.

A final dual roundabout alternative was considered that consolidates the roadways into two 4-legged roundabouts. This concept would connect Clocktower Place directly into the northern roundabout. Additional properties are impacted with the configuration. **Table 4** shows the summary of the analysis results of the Clocktower & Chestnut St Integration Concept. With this alternative the roundabouts will operate at LOS B or better without having nearby intersections that would creating confusion and increasing overall delay.

Although each option has its advantages and disadvantages, the dual roundabout option would appear to provide the best opportunity to enhance vehicular and pedestrian mobility while encouraging area redevelopment. The dual roundabout alternative, specifically the Clocktower & Chestnut St Consolidation Concept therefore will be the alternative included for screening and evaluation purposes.

■ 3.1.2 Water Street

If one or more private developers, in collaboration with the City, were to advance a pedestrian friendly redevelopment plan for the Walnut Street Oval area, it would be advantageous to provide continuous pedestrian connectivity to the Nashua River at

Water Street. This could be done by converting the western segment of Water Street to a pedestrian corridor/park. This conversion to a pedestrian corridor could be relatively straight forward as the existing western segment of Water Street could be closed to vehicular traffic and converted. **Figure 17** shows a concept of what Water Street could look like as a pedestrian corridor.

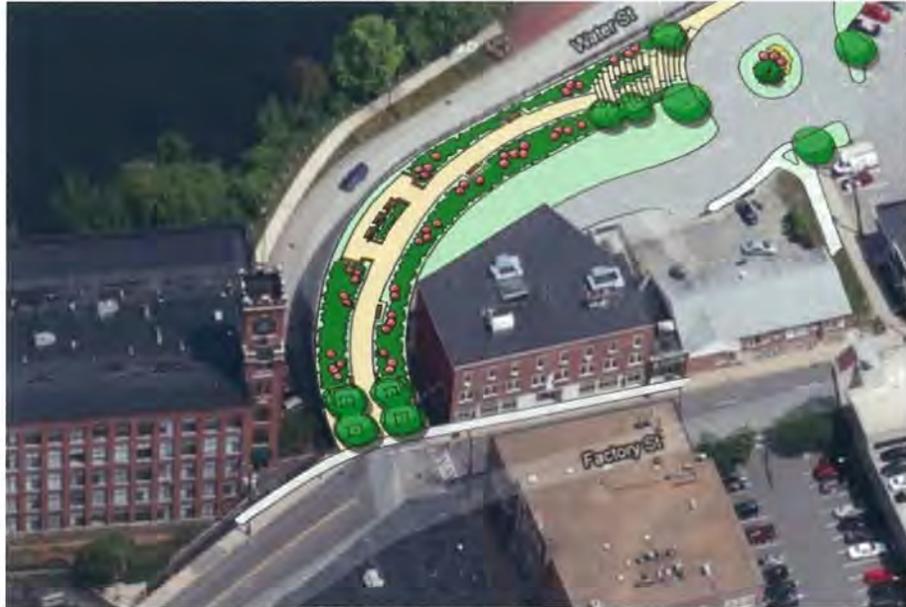


Figure 17: Water Street Pedestrian Corridor

Full vehicular access and egress would be maintained for all businesses on Water Street by way of the traffic signal controlled Main Street intersection. Traffic operations at the Water Street/Park Street/Main Street intersection would be expected to show a modest improvement due to the reduced traffic volume on the Water Street approach. Vehicles that currently use Water Street and are not destined to one of the local businesses on Water Street would divert to other existing roadways, primarily Factory Street.

While this would reduce some vehicular circulation throughout the downtown, it would increase pedestrian and bicycle use. The pedestrian corridor, which would connect to Factory Street, would not only provide access to pedestrians and bicyclists, but it would provide an aesthetically pleasing area with landscaping, benches, and great views of the River.

■ 3.1.3 Factory Street

The portion of Factory Street from Water Street to Main Street and Temple Street from Spring Street to East Pearl Street would be transitioned from existing one-way eastbound (except the section of Temple Street from Main Street to Spring Street that presently services two-way traffic flows) to two-way traffic flow under the Factory and/or Temple Street two-way conversion alternative. This alternative is illustrated in **Figure 18**.

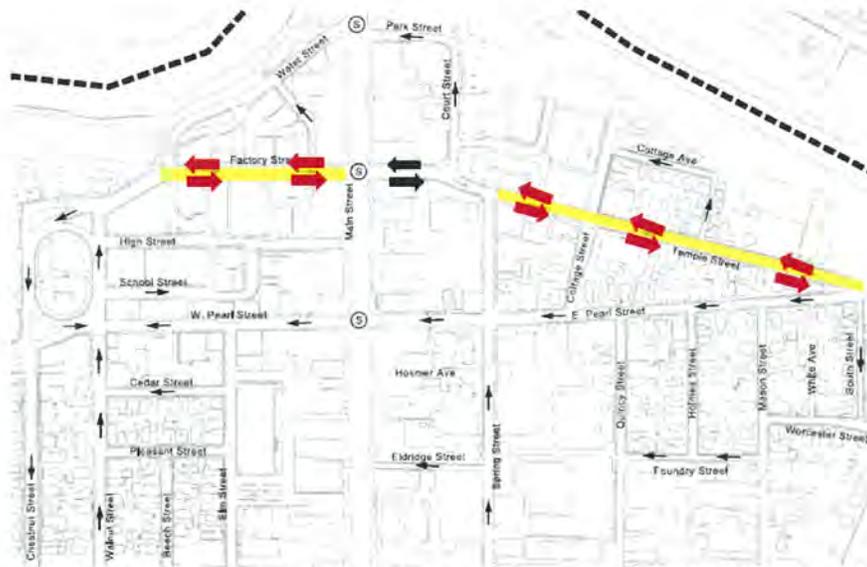


Figure 18: Factory Street and/or Temple Street Two-way Conversion Alternative

Converting Factory Street to two-way operation while maintaining full access/egress at Water Street would be problematic given the poor sight line available for motorists turning from Water Street. The sight line is limited by the building located on the northeast corner of the Factory Street/Water Street intersection. However, the sight line issue would be negated if the Factory Street two-way conversion was combined with the closure of the west segment of Water Street as provide under the Water Street Pedestrian Corridor alternative.

Table 5 - Signalized Intersection Capacity Analysis Summary

		Existing 1-Way (Excl. PED)			2-Way Alternative (2-Lane West Approach Split Phase and Excl. PED)		
		v/c*	Delay**	LOS***	v/c	Delay	LOS
Main St. at Water/Park St.	PM	0.62	29	C	0.63	26	C
Main St. at Factory/Temple St.	PM	0.46	26	C	0.71	36	D

* Volume to Capacity Ratio.

** Delay in seconds per vehicle.

*** Level of Service.

Under this two-way conversion, the intersection of Main Street at Factory Street/Temple Street show an increase in delay and drop a level of service from LOS C to LOS D during the weekday evening peak hour. This deterioration in operations is due to the need to add phases to the existing traffic signal. The rule of thumb is when a phase is added to an existing traffic signal, operations will decrease one level of service. This is what occurs here. There is potential to mitigate some of this increase in delay if the exclusive pedestrian phase was removed and current pedestrian phasing was used at this intersection.

The overall delay at the Main Street/Park Street/ Water Street intersection shows a modest improvement with the conversion to two-way operations. This is primarily due to the shift in vehicle demand from Water Street to Factory Street.

■ 3.1.4 East and West Pearl Street Two-Way Conversion

The portion of West Pearl Street from Walnut Street to Main Street and East Pearl Street from Main Street to Temple Street could be transitioned from existing 1-way westbound to 2-way traffic flow under the East and West Pearl Street 1-way to 2-way alternative. This alternative is illustrated in Figure 19.



Figure 19: East and West Pearl Streets Two-way Conversion Alternative

This conversion to two-way flow along the entire length of the study area would be relatively complex due to the varying existing cross section of the pavement width. The narrowest section is located on East Pearl Street near the Temple Street intersection where the road is only 28 feet wide. The widest section of the roadway is on East Pearl Street between Main Street and Spring Street where the cross section is 38 feet wide. The constraints of the existing pavement width would limit the choice of what new roadway geometry to include; travel lanes in each direction, on-street parking and bike lanes. Traffic control device modifications would be necessary at Temple Street/East Pearl Street Main Street/East Pearl Street/West Pearl Street and West Pearl Street/Walnut Street. Additional minor street intersections would also need some modifications. These traffic control device modifications include the following:

- Removal of one-way street and prohibited turn signage at multiple intersections including Walnut Street/West Pearl Street, Elm Street/West Pearl Street, East Pearl Street/Spring Street, East Pearl Street/Cottage Street, East Pearl Street/Quincy Street, East Pearl Street/Holmes Street, East Pearl Street/Mason Street, East Pearl Street/White Avenue, and East Pearl Street/Temple Street/South Street.
- Modification of traffic signal heads on the existing west bound approach at East Pearl Street’s intersection with Main Street.
- Installation of traffic signal heads for the east bound approach at West Pearl Street’s intersection with Main Street.

- Traffic signal controller cabinet modifications to provide appropriate traffic signal phasing for the new geometry at Main Street/West Pearl Street/East Pearl Street intersection.

Traffic operational analysis shows levels of service to remain the same (LOS C) as the existing condition for the AM and PM peak hours at the signalized intersection of Main Street and East/West Pearl Street. This result is based upon a forecast diversion of approximately 125 vehicles during peak hours. **Table 6** summarizes the traffic operational results compared to the existing condition at the signalized intersection of Main Street and East/West Pearl Street.

Table 6 - Signalized Intersection Capacity Analysis Summary

		Existing 1-Way (Excl. PED)			2-Way Alternative (Single Lane E/W Approaches Conc. Side Street and Excl PED)		
		<u>v/c*</u>	<u>Delay**</u>	<u>LOS***</u>	<u>v/c</u>	<u>Delay</u>	<u>LOS</u>
		Main St. at East/West Pearl St	AM	0.50	21	C	0.60
	PM	0.47	22	C	0.56	32	C

* Volume to Capacity Ratio.

** Delay in seconds per vehicle.

*** Level of Service.

It should be noted that the analysis presented in Table 6 includes concurrent side street phasing and exclusive pedestrian phasing for the traffic signal. This would need to be reviewed more closely if this alternative is progressed to verify that the phasing will work from a geometric standpoint and that split phasing can be utilized.

Additionally, the unsignalized side streets were not reviewed in detail for the consideration of this alternative. These intersections will all experience an increase in delay as a result of the added conflict movements.

A variation on this alternative could also be considered where either East Pearl Street only or West Pearl Street only is converted to two way operations.

■ 3.1.5 Factory/ Temple Street and East/West Pearl Street

Under the reverse 1-way Factory/ Temple and East/West Pearl Street alternative, the existing eastbound traffic movements along Factory Street and Temple Street and the existing westbound traffic movements along East and West Pearl Street would be reversed. Noted is that the existing Temple Street 2-way traffic flows from Main Street to Spring Street would also be changed to 1-way westbound. This alternative is illustrated in **Figure 20**.

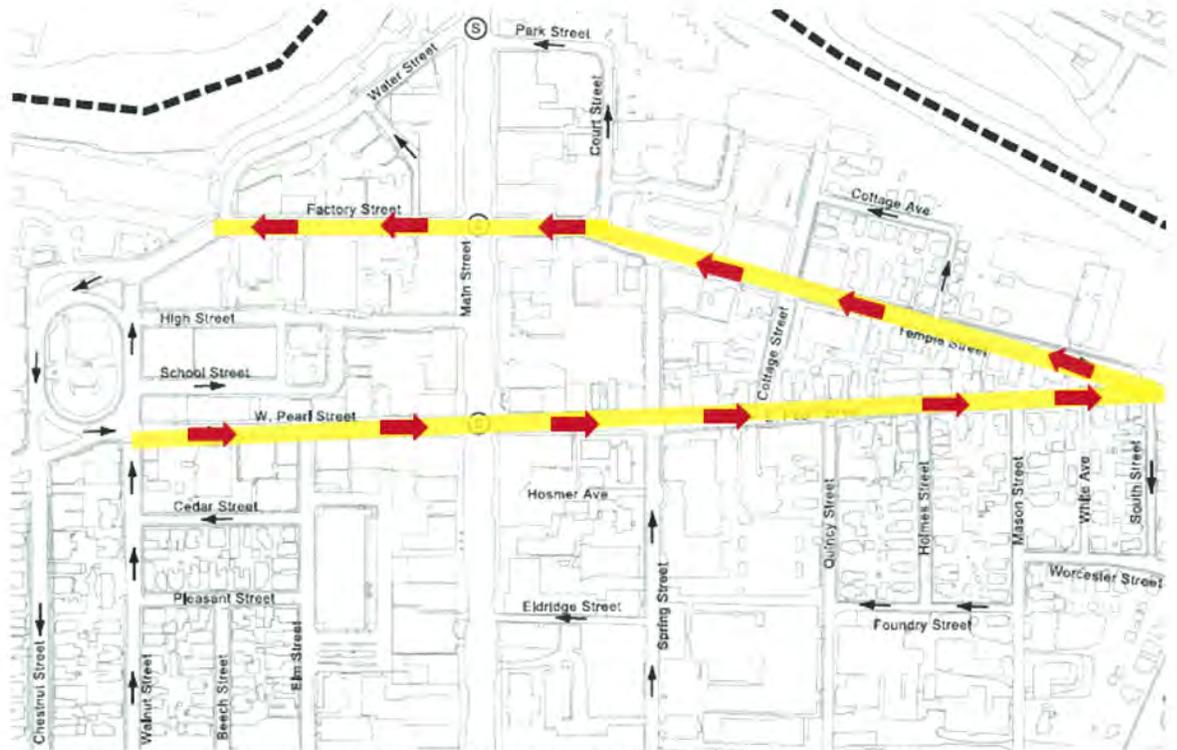


Figure 20: Factory St/Temple St and East and West Pearl Street Reverse One-way Alternative

This conversion to reverse flow along the entire length of the Factory/Temple Streets and West/East Pearl Streets would be relatively straight forward due to the existing cross section. No modifications to the roadway width would be required. Only the roadway striping would need to be modified to reflect the change in flow. However, the traffic control at all of the intersections would need to be modified to reverse conditions. Both traffic signals on Main Street would need to be modified including signal head placement, phasing and timing. The many unsignalized intersections would also need modification including Water Street, Walnut Street, Elm Street, Spring Street, Cottage Street, Quincy Street Holmes Street Mason Street, White Avenue, and South Street. These changes would be mostly confined to modifying signage and striping.

Table 7 - Signalized Intersection Capacity Analysis Summary

		Existing 1-Way			Reverse 1-Way Alternative		
		v/c*	Delay**	LOS***	v/c	Delay	LOS
Main St. at Factory/Temple St.	AM	0.38	16	B	0.55	16	B
	PM	0.46	26	C	0.54	19	B
Main St. at East/West Pearl St.	AM	0.50	21	C	0.37	16	B
	PM	0.47	22	C	0.42	22	C

* Volume to Capacity Ratio.

** Delay in seconds per vehicle.

*** Level of Service.

■ 3.1.6 Spring Street

Under the Spring Street 1-way to 2-way conversion alternative, the portion of Spring Street between East Hollis Street and East Pearl Street would be transitioned from existing 1-way northbound to 2-way traffic flow. This alternative is illustrated in Figure 21.

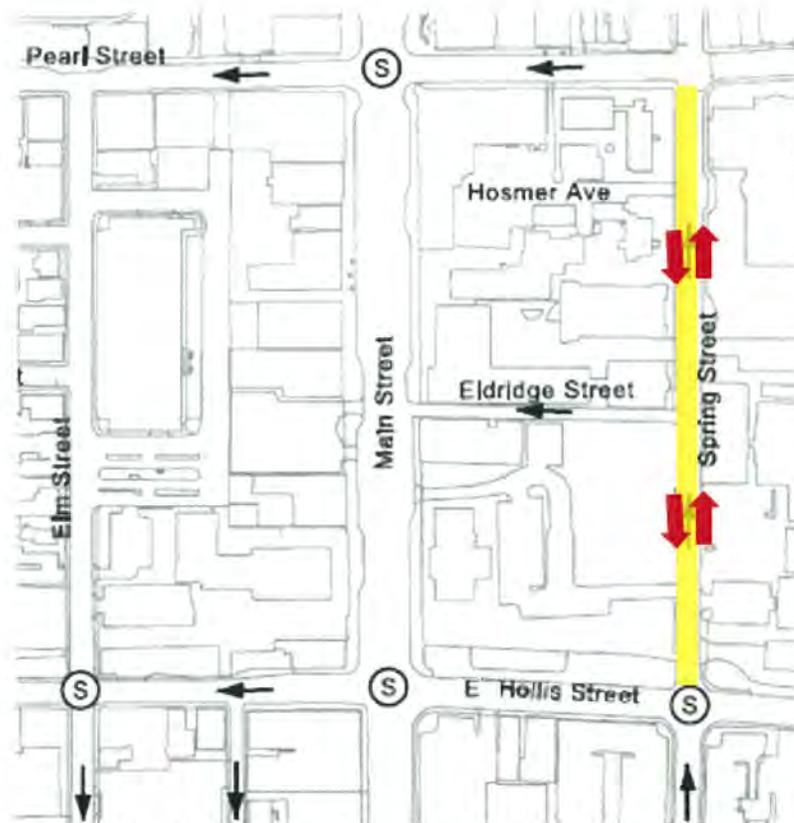


Figure 21: Spring Street Two-way Conversion Alternative

This conversion to two-way flow would be relatively straightforward as the roadway currently has two travel lanes in addition to on-street parking on the east side of the street. However, traffic control device modifications would be necessary at Spring Street/East Pearl Street and Spring Street/East Hollis Street with this alternative. These traffic control device modifications include the following:

- Removal of one-way street and prohibited turn signage at Spring Street’s intersection with East Pearl Street.
- Installation of “Do Not Enter” signs to the Medical Center Drive approach to inform southbound Spring Street motorists that they are required to turn left or right at the traffic signal.
- Installation of traffic signal heads on the existing southwest corner mast arm pole at Spring Street’s intersection with East Hollis Street.

- Traffic signal controller cabinet modifications to provide southbound Spring Street traffic signal phasing (proposed to be split from Medical Center Drive’s green indications given the moderately high volume of conflicting Spring Street left-turn to Medical Center Drive through and right-turn movements).

Traffic operational analysis shows levels of service to remain the same (LOS B) as the No Build condition for the AM and PM peak hours at the All-Way STOP intersection of Spring Street and East Pearl Street. This result is based upon a forecast diversion ranging from 50-75 vehicles to southbound Spring Street during peak hours. **Table 8** summarizes the traffic operational results compared to the existing condition at the signalized intersection of Spring Street and East Hollis Street.

Table 8 - Signalized Intersection Capacity Analysis Summary

		No Action 1-Way Spring St. (Exclusive PEDs)			2-Way Spring St. Alternative (Exclusive PEDs)			
		<u>v/c*</u>	<u>Delay**</u>	<u>LOS***</u>	<u>v/c</u>	<u>Delay</u>	<u>LOS</u>	
		East Hollis St. at Spring St.	AM	0.42	31	C	0.53	40
		PM	0.59	44	D	0.68	60	E
					2-Way Spring St. Alternative (Concurrent PEDs)			
					<u>v/c</u>	<u>Delay</u>	<u>LOS</u>	
					0.49	31	C	
					0.63	37	D	

* Volume to Capacity Ratio.

** Delay in seconds per vehicle.

*** Level of Service.

The results of the signalized operational analysis shows a drop in LOS (from D to E) during the critical PM peak hour with the Spring Street southbound approach added to the existing signalized intersection and retention of the exclusive pedestrian phasing. In addition to the drop in LOS, eastbound vehicle queues along East Hollis Street are forecast to reach Main Street. The forecast drop in LOS and increased vehicle queuing are undesirable changes to operating conditions that may require mitigation.

One potential modification to improve LOS and reduce vehicle queuing at the signalized intersection is a change from exclusive pedestrian signal phasing (where all traffic stops for any pedestrian pushbutton actuation) to concurrent pedestrian signal phasing (where the WALK signal is displayed and pedestrians cross with moving vehicle traffic adjacent to the crosswalk, noting turn vehicles are instructed by way of regulatory signage as well as state statutes to YIELD to any pedestrian in a crosswalk). Discussion on the advantages and disadvantages of exclusive versus concurrent pedestrian phasing can be found in earlier sections of this report. As shown in **Table 8**, operational level of service is forecast to remain the same as the

existing condition with use of concurrent pedestrian crossings, even with the added signal phase for the Spring Street approach that reduces existing intersection capacity by four to seven percent during the peak hours.

■ **3.1.7 Park Street and Court Street**

The east/west portion of Park Street from Main Street to Court Street and the north/south portion of Court Street from Temple Street to Park Street would be transitioned from existing one-way westbound and northbound, respectively to two-way traffic flow under the Park Street and Court Street 2-way conversion alternative. This alternative is illustrated in **Figure 22**.

Note that the proximity of Pearson Avenue to Park Street, particularly in relation to the two streets connections to Main Street, lead to Pearson Avenue and its connecting street to be included into the discussion of the Park Street and Court Street alternative.



Figure 22: Park Street and Court Street Two-way Conversion Alternative

Converting Court Street and Park Street to two-way operation would improve mobility in the area and also enhance land development opportunities. Converting Court Street to two-way operation would at a minimum involve modest modifications, to the Court Street/Temple Street intersection such as removing the raised channelized island on Temple Street. However, a better option would be to initiate discussions with the owner of the 30 Temple Street property regarding the potential redevelopment opportunities for the adjacent parcels, which perhaps could include the reconfiguration of the intersection in such a way as to connect Spring Street directly into the intersection. Also, given the offset configuration of the Main Street/Park Street/Water Street intersection, it may be best to maintain the one-way westbound restriction for the short (approximately 100') western most section of Park

Street. Connection to Pearson Street would be maintained through the existing parking lot. Prior to the City advancing the conversion to two-way flow along Court Street and Park Street it would be advantageous to work with the owner of the 30 Temple Street property to consider whether a reconfiguration of the Court Street/Temple Street intersection could be coordinated with any development proposal.

■ 3.1.8 Pedestrian Signal Phasing

Under the existing condition, all study area signalized intersections are timed to provide exclusive pedestrian phased signal timing. As illustrated in **Figure 23**, an exclusive pedestrian phase is when vehicle and bicycle traffic is stopped on all approaches to allow pedestrians to cross any leg of a signalized intersection.

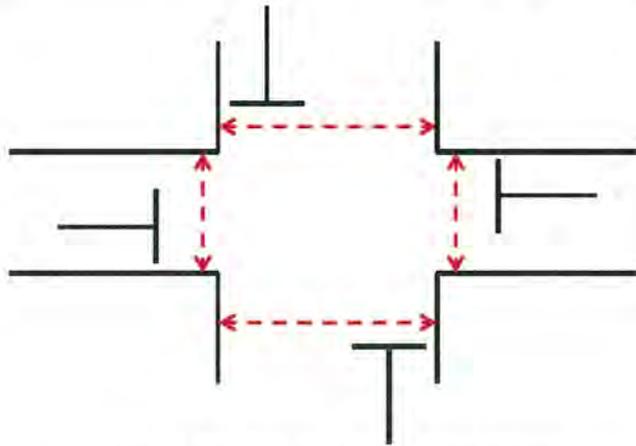


Figure 23: Exclusive Pedestrian Crossing

Generally, exclusive pedestrian phasing is only being used in the New England region, whereas most of the United States services pedestrian movements by way of concurrent pedestrian signal phasing³.

Figure 24 shows concurrent pedestrian phasing that allows for pedestrians to cross in the same direction at the same time as parallel motor vehicle and bicycle traffic receives a green indication. Turning vehicles are instructed by way of on-street regulatory signage backed by New Hampshire state law to YIELD to any pedestrian in a crosswalk.

³ Technical presentation to the New England Section of the Institute of Transportation Engineers (ITE), 2010.

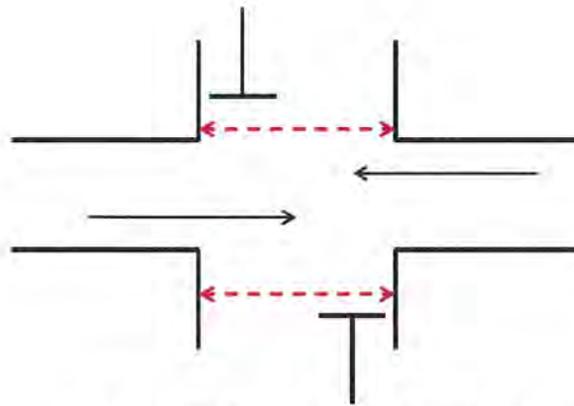


Figure 24: Concurrent Pedestrian Crossing

A comparison of exclusive pedestrian phasing to concurrent pedestrian phasing is summarized as follows:

Exclusive Pedestrian Phasing	vs	Concurrent Pedestrian Phasing
<ul style="list-style-type: none"> • Results in longer delay for motor vehicles, bicycles, and pedestrians. • Provides a feeling of security for pedestrians when traffic is stopped • Used primarily in New England states • Pedestrians often push button and cross against the pedestrian signal concurrent with parallel traffic if no conflicts exist. • May require NO RIGHT TURN ON RED sign. 		<ul style="list-style-type: none"> • Results in less delay for motor vehicles, bicycles, and pedestrians. • Results in conflicts between turning vehicles and pedestrians. • More widely used and recognized. • Incorporation of early release (leading pedestrian) interval lessens conflicts with turning vehicles. • Pedestrian must exercise more caution and judgment.

As stated in the fourth bullet of the concurrent pedestrian phasing discussion, traffic signal phasing can be set for an early release so that pedestrians are well into the crosswalk before vehicle traffic is given a green indication and permitted to turn. This methodology is shown in **Figure 25**. Recent New England projects⁴ have shown success in transitioning to a concurrent pedestrian crossing using the early release (leading pedestrian) method for initial implementation with eventual phase out of the leading interval as motorists become accustomed to moving with (and turning vehicles yielding to) pedestrians.

The primary benefit to implementing concurrent pedestrian phasing is reduced delay and improved vehicular, pedestrian, and bicycle mobility. Often this results in an improvement to traffic and pedestrian operations by one level of service. The downside to converting from exclusive to concurrent pedestrian phasing is the potential for increased conflicts with the potential for as much as a 15 percent (high traffic volume compared to high pedestrian activity) to 40 percent (high traffic volume compared to low pedestrian activity) increase in vehicle, bicycle, and pedestrian related crashes⁵.

⁴ River Street at Massachusetts Avenue, Binney Street at Second Street, Binney Street at Third Street, Cambridge, Massachusetts, 2009-2103.

⁵ Transportation Research Record No. 847 and 1141, Washington, D.C.

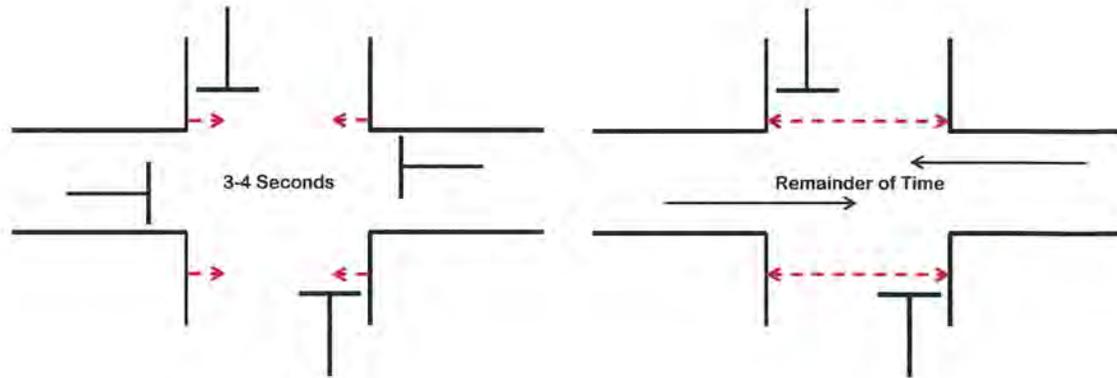


Figure 25: Concurrent Pedestrian Crossing with Early Release

3.2 Public Outreach Process

The study included an open and consensus-driven public participation process. In addition to meetings with City staff and a public presentation to a joint meeting of the Board of Aldermen Committee on Infrastructure and Planning & Economic Development Committee, an important public workshop was held on April 30, 2014.

The workshop, which was attended by residents, property and business owners, as well as the Mayor, members of the Board of Aldermen and key City staff, provided attendees an opportunity to share their ideas on a wide range of potential solutions directly with the study team in an informal workshop-type format.

The following is a small sampling of some of the comments provided by attendees of the workshop. This is not a complete list of the comments and suggestions.

- Do not remove on-street parking.
- Maintain raised crosswalks.
- Bike racks are needed throughout the Downtown.
- Bike lanes need to be connected and routes need to be developed for both east-west as well as north-south travel.
- Consider “walk with traffic” pedestrian traffic signals.
- Converting Water Street to a pedestrian connection with green space is a good idea.
- Reverse the one-way flow on East Pearl Street and Temple Street to improve circulation.
- The Post Office on Spring Street is the cause of most of the existing problems on the street – customers cause backups during the morning peak hours.

- Maintain one-way operation East Hollis Street and East Pearl Street, but convert Spring Street to two-way.
- Consider any circulation modifications within the context of future land development projects.

These and many other comments and suggestions were considered in the development of the Study Findings.

4

Study Findings

To improve vehicular mobility, strengthen transit, pedestrian, and bicycle connections, and to enhance accessibility for residents and businesses, the City should consider converting some of the Downtown's one-way streets to two-way flow. However, changing the circulation patterns of several streets at the same time can be disruptive and therefore it would be best to implement these types of actions over time. Some of the actions could be implemented now, some in the future, and some would be best implemented as part of future roadway reconfiguration projects.

Walnut Street Oval

Reconfiguring the Walnut Street Oval would not only afford the City an opportunity to enhance access to the Downtown from the west (complimenting the Broad Street Parkway), but it would also provide a tremendous opportunity to both encourage redevelopment and introduce a more pedestrian friendly appeal to the area.

A range of reconfiguration alternatives were considered. Although each option has its advantages and disadvantages, the dual roundabout option would appear to provide the best opportunity to enhance vehicular and pedestrian mobility while encouraging area redevelopment.

Advancing the roadway reconfiguration, solely as a City improvement project, would be costly and as result could take many years. However, if there was an opportunity for this type of roadway reconstruction project to be constructed by the private sector as part of a larger redevelopment plan where the City and one or more property developers worked together, this type of project could advance much quicker. To advance this concept, the City should share the reconfiguration concept with interested area property developers and initiate discussions with them in an effort to spark interest in the area's redevelopment opportunities.

Water Street

If one or more private developers, in collaboration with the City, were to advance a pedestrian friendly redevelopment plan for the Walnut Street Oval area, it would be advantageous to provide continuous pedestrian connectivity to the Nashua River at Water Street. This could be done by converting the western segment of Water Street to a pedestrian corridor. Full vehicular access and egress would be maintained for all businesses on Water Street by way of the traffic signal controlled Main Street intersection. The pedestrian corridor, which would connect to Factory Street, would not only provide access to pedestrians and bicyclists, but it would provide an aesthetically pleasing area with landscaping, benches, and great views of the River.

Factory Street

In addition to the aesthetic and community enhancements and the improved pedestrian connectivity to the Nashua River, converting the western segment of Water Street to a pedestrian corridor, would remove vehicular traffic from entering Factory Street from Water Street and thereby negate the poor sight line issue. With the poor sight line issue addressed, Factory Street can be converted to two-way flow. Factory Street's existing 36-foot curb-to-curb width would accommodate a single travel lane in each direction while maintaining the existing on-street parking on the north side of the street. This change would require modifications to the Main Street/Factory Street/Temple Street traffic signal. The City should consider converting Factory Street to two-way, but only as part of the closure of the western segment of Water Street.

West Pearl Street

Converting West Pearl Street to two-way flow would provide improved connectivity to and from Main Street. The existing 36-foot curb-to-curb width along the segment of West Pearl Street from Main Street to Elm Street would accommodate a single travel lane per direction while allowing the City to maintain the existing on-street parking on the north side of the street. However, because the segment of West Pearl Street from Elm Street to Walnut Street is only 34 feet wide with on-street parking on both sides of the street, the conversion to two-way flow would most likely result in the loss of the existing on-street parking spaces on the south side of the street. In an effort to minimize any loss of on-street parking, the City could consider reducing the approximately 8' wide sidewalk on the south side of the west end of West Hollis Street by approximately 2 feet. This additional roadway width could accommodate two 10' travel lanes in addition to maintaining on-street parking on both sides of the roadway.

This conversion to two-way operation would require modifications to the Main Street/ East Pearl Street/West Pearl Street traffic signal. Converting West Pearl Street to two-way flow would best be accomplished as part of any reconfiguration and redevelopment plan for the Walnut Street Oval.

Temple Street and East Pearl Streets

Converting either Temple Street and/or East Pearl Street from their existing one-way operation to two-way flow would improve vehicular mobility. However, the downside of the conversion would be the loss of on-street parking and/or an existing designated bike lane. Temple Street's existing 34-foot curb-to-curb width accommodates a single travel lane, a bicycle lane, and on-street parking on both sides of the street. To convert the roadway to two-way flow with a travel lane and a bike lane in each direction would necessitate the loss of parking on both sides of the street. Similarly, providing two-way flow on East Hollis Street, which has sections as narrow as 28 feet, would necessitate the loss of parking and the bike lane. Additionally, based on public input, there does not appear to be much support for converting either Temple Street or East Pearl Street to two-way flow. For these reasons, it may be best for the City to leave Temple Street and East Pearl as currently configured for the time being.

Spring Street

Converting Spring Street from East Hollis Street to East Pearl Street from its existing one-way northbound operation to two-way flow would be relatively straightforward as the roadway currently has two travel lanes in addition to on-street parking on the east side of the street. However, the change would require modifications to the East

Hollis Street/Spring Street traffic signal. Also, patrons of the Post Office would no longer be able to queue along one of the travel lanes when the parking lot gets congested (as they do today) as the northbound traffic would be limited to one lane. Nevertheless, if the City is committed to begin to convert some of its one-way streets to two-way, Spring Street may be a good location to start.

Court Street and Park Street

Converting Court Street and Park Street to two-way operation would improve mobility in the area and also enhance land development opportunities. Converting Court Street to two-way operation would at a minimum involve modest modifications, to the Court Street/Temple Street intersection such as removing the raised channelized island on Temple Street. However, a better option would be to initiate discussions with the owner of the 30 Temple Street property regarding the potential redevelopment opportunities for the adjacent parcels, which perhaps could include the reconfiguration of the intersection in such a way as to connect Spring Street directly into the intersection. Also, given the offset configuration of the Main Street/Park Street/Water Street intersection, it may be best to maintain the one-way westbound restriction for the short (approximately 100') western most section of Park Street. Connection to Pearson Street would be maintained through the existing parking lot. Prior to the City advancing the conversion to two-way flow along Court Street and Park Street it would be advantageous to work with the owner of the 30 Temple Street property to consider whether a reconfiguration of the Court Street/Temple Street intersection could be coordinated with any development proposal.

Share the Road Philosophy

Providing additional designated bicycle lanes within the existing cross-section of the Downtown streets would be difficult without sacrificing on-street parking. Although there is strong advocacy for improved bicycle connectivity, there does not appear to be strong support for providing designated bicycle lanes along Downtown streets – particularly if doing so would impact on-street parking. Nevertheless, there are actions that the City can take to encourage bicycle use and enhance the experience of bicyclists. The City should continue to advance off-road opportunities for connectivity such as the Nashua Heritage Rail Trail and the Nashua Riverwalk. Bike racks could be installed throughout the Downtown. The City recently purchased bike racks as part of the sidewalk reconstruction project and is currently working to identify locations where the racks will be placed.

The City could also install more “Share the Roadway” signs, which serve to remind motorists of the multi-modal character of the Downtown. Moreover, in addition to these specific actions, the City should, within the core of the Downtown, establish a “Share the Road” philosophy. The concept of share the road stems from the idea that all roadways within the core area of the Downtown should have a look and feel of an area where motorists will expect to see and will be welcoming to pedestrians and bicyclists. This is best accomplished by minimizing the pavement width of travel lanes while maximizing the width of sidewalks and providing numerous areas where people are encouraged to gather.

Concurrent Pedestrian Signal Phasing

Together with the share the road philosophy, the City should consider providing concurrent pedestrian signal phasing at all study area intersection. Concurrent pedestrian signal phasing allows pedestrians to cross an intersection at the same time as in the same direction and at the same time (concurrently) with motor vehicles and

bicyclists traveling in the same direction. This type of signal phasing, as opposed to exclusive pedestrian phasing that only allows pedestrians to cross when vehicles on all approaches to the intersection are stopped, would provide enhance both pedestrian and vehicular mobility.

Next Steps

This planning study identified a number of issues and potential solutions on a conceptual basis. Some of the actions will require more detailed evaluation and design. However, there are steps that the City can begin to take now to improve traffic circulation with the goal of enhancing the experience of those who live, work, and visit the Downtown. These next steps are described as follows:

1. The City should establish and adopt a consistent and continually reinforcing Vision for the Downtown. This stated Vision will serve to guide decision makers with the development and implementation of consistent actions and programs over the coming years.
2. An important outcome of the Vision should be to convert at least some of the many one-way Downtown streets to two-way operation. However, changing the street circulation patterns in downtown areas can be disruptive and therefore, it would be best to implement these types of changes gradually overtime. As an initial project, the City should consider converting Spring Street from Hollis Street to East Pearl Street from its existing one-way northbound operation to two-way flow. Doing so will necessitate modifications to the East Hollis Street/Spring Street traffic signal at an estimated cost of approximately \$40,000.
3. The City should initiate discussions with the development community in an effort to encourage the redevelopment of the Walnut Street Oval area. The two-roundabout alternative would serve to improve vehicular, pedestrian, and bicycle mobility while also maximizing developable land. The economic development potential of the area is tremendous. However, the investment costs are considerable. The roadway reconstruction cost alone (not including land costs) are estimated at over \$2 million. A creative public/private partnership could improve traffic circulation, enhance pedestrian and bicycle mobility, and stimulate economic development within this important part of the Downtown.
4. Upon the completion and opening of the Broad Street Parkway, the City (perhaps in partnership with the NRPC) should conduct updated traffic volume counts throughout the Downtown. Previous studies have estimated diversionary effects of the Parkway. However, prior to committing to any substantial modifications to the Downtown street system, the City should obtain actual post-Parkway traffic volumes. This is particularly important in assessing the increase in traffic demand destined to Main Street from the Parkway.
5. Following the opening of the Broad Street Parkway and upon review of the post-Parkway traffic volume counts, the City should consider converting West Pearl Street to two-way operation. However, to maintain parking on

both sides of the roadway, the City would need to reduce the approximately 8' wide sidewalk on the south side of the west end of West Hollis Street by approximately 2 feet. This additional roadway width could accommodate two 10' travel lanes in addition to maintaining on-street parking on both sides of the roadway. This modification to the sidewalk is estimated to cost approximately \$20,000.

6. The City should begin to consider the potential benefits of converting the western segment of Water Street to a pedestrian corridor. Although this may be a longer-term project, providing this pedestrian connection to the Nashua River, particularly if the Walnut Street Oval area gets redeveloped, will continue to reinforce the notion that Downtown Nashua is a pedestrian friendly environment.
7. If the City converts the western segment of Water Street to a pedestrian corridor, the City should then convert Factory Street to two-way flow. Factory Street's existing 36-foot curb-to-curb width would accommodate a single travel lane in each direction while maintaining the existing on-street parking on the north side of the street. This change would require modifications to the Main Street/Factory Street/Temple Street traffic signal.
8. The City should consider converting Court Street and Park Street (with the exception of the short section closest to Main Street) to two-way flow. However, prior to advancing this action, the City should involve the property owner of the 30 Temple Street office building. Converting Court Street to two-way flow would, at a minimum involve modest modifications, to the Court Street/Temple Street intersection such as removing the raised channelized island on Temple Street. However, a better option would be to initiate discussions with the owner of the 30 Temple Street property regarding the potential redevelopment opportunities for the adjacent parcels, which perhaps could include the reconfiguration of the intersection in such a way as to connect Spring Street directly into the intersection.

Appendix D

Performing Arts Center Feasibility Study

webb

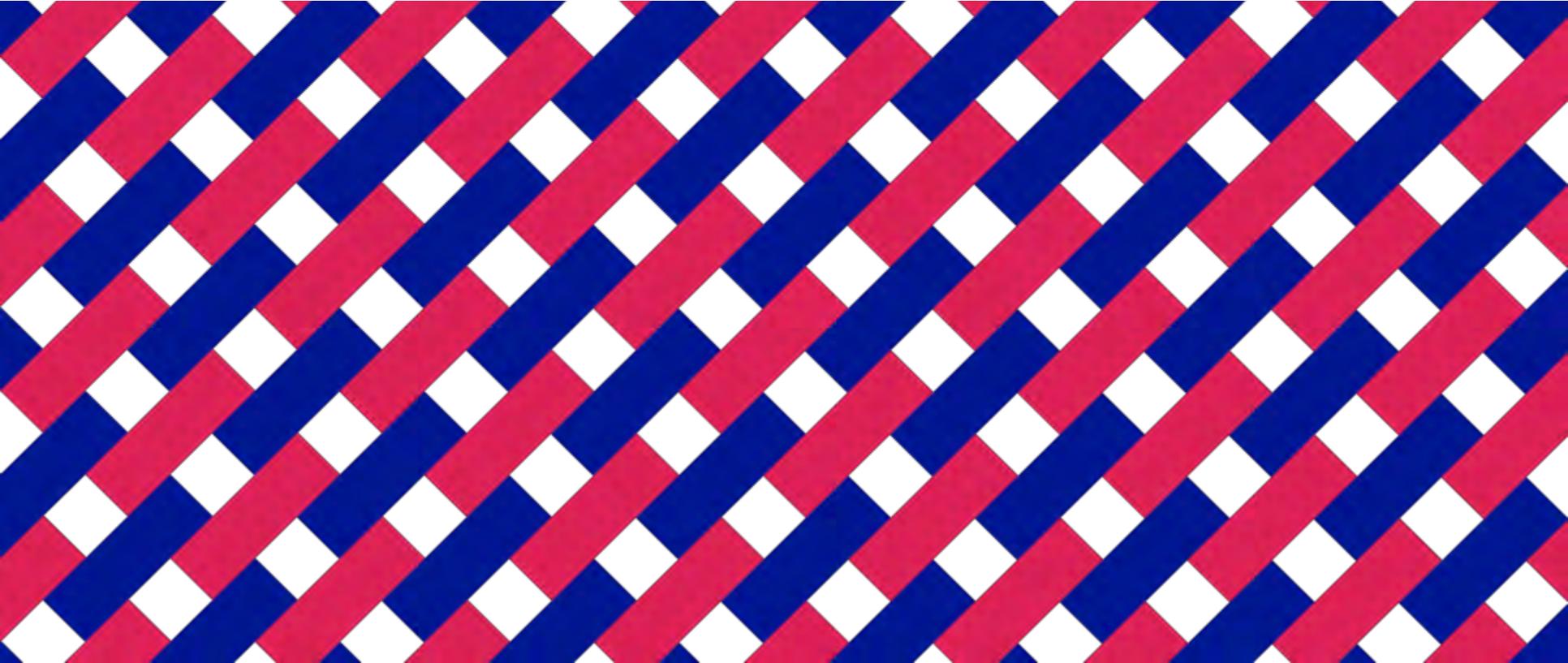
management
services
incorporated

building creativity

May 2, 2017

Performing Arts Facilities for Nashua

Developed for The City of Nashua



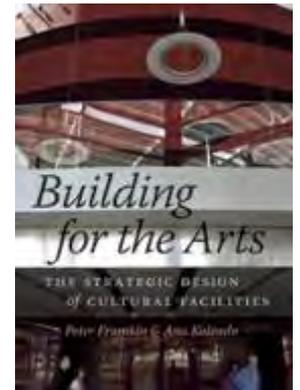
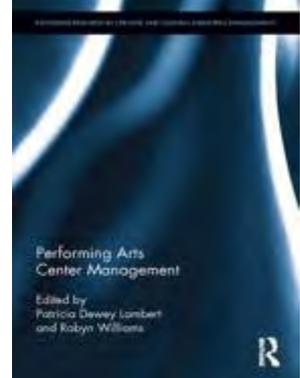
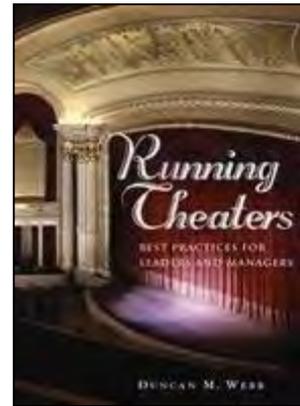
Agenda

- * Needs assessment summary
- * Physical and business plans for Court St.
- * Physical and business plans for a new facility



Webb Management Services

- * Webb Management Services, Inc. is a management consulting practice for the development and operation of performing arts facilities. We work for governments, schools, developers, and arts organizations on facility feasibility, business planning, and strategic planning. Our practice was founded in 1997, and we just started our 390th assignment.
- * In 2001, we completed the original feasibility study for this project. Other regional experience includes projects in Gilford, Keene, Lowell (MA), Framingham (MA), Lynn (MA), Worcester (MA), and Fitchburg (MA).



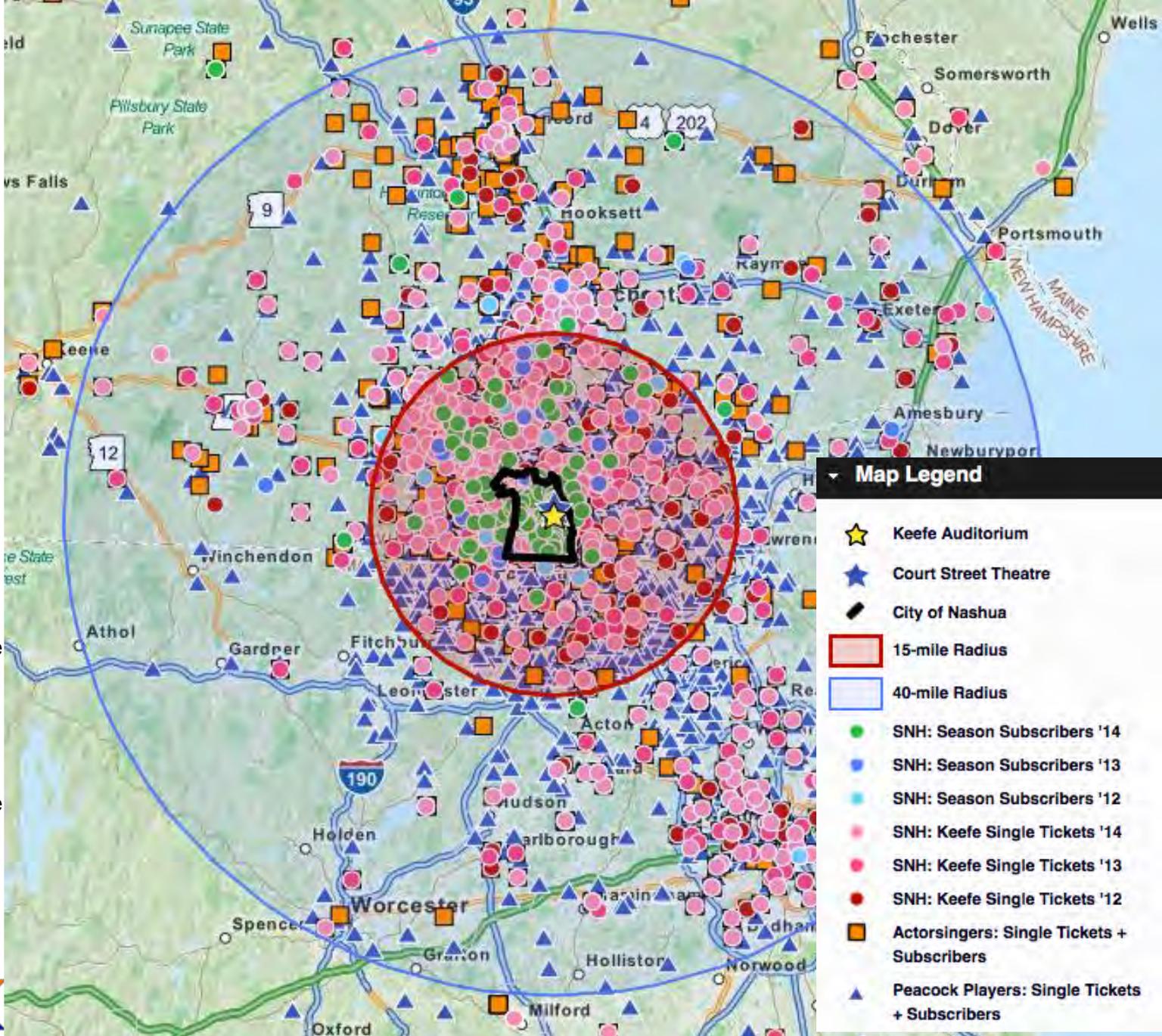
Study brief + background

- * The idea of building a performing arts center in Downtown Nashua has been under consideration for at least 15 years.
- * Significant cultural development has been accomplished since the genesis of the idea.
- * While some community leaders and local residents think that a performing arts center would be another important catalyst for downtown development, there is much work to be done around the idea.
- * Webb Management Services was hired to establish whether or not building a theater in downtown Nashua is feasible. In 2016, we assessed the market for the arts in Nashua, demand for performance space, the current supply of performance facilities in the region, and the goals of the City for the future.
- * Having reached positive conclusions on the need for facilities, we went on to develop physical and business plans over the past six months.



Market analysis: segments one, two + three

- * Market segment 1 is defined as the City of Nashua.
- * Market segment 2 is defined as the 15-mile radius surrounding the Keefe Auditorium.
- * Market segment 3 is defined as the 40-mile radius surrounding the Keefe Auditorium.



Market conclusions

Market Conclusions: By Segment				
	Size*	Growth	Characteristics	Conclusions
Nashua	87,477	↑	Slowly growing population; Diverse in age with a large number of families; Varying household incomes & levels of educational attainment; Racially & ethnically diverse with a large Indian American community	Opportunities for increased family, culturally specific & hands-on programming; Need for price-sensitive programs and facilities
15-mile Radius	668,901	↑	Growing population; Diverse in age with a large number of families & Millennials; Affluent; Varying levels of educational attainment; Racially & ethnically diverse	Opportunities for increased family, culturally specific & hands-on programming; Propensity for supporting traditional arts
40-mile Radius	4,693,531	↑	Growing population; Diverse in age with a large number of families; Affluent; Well-educated; Racially & ethnically diverse	Opportunities for increased family, culturally specific programming; Propensity for supporting traditional arts; Possible demand for jazz events and programs
Tourism	38.4M	↑	Outdoor recreation oriented with arts & entertainment participation	Recreation-based programs & events; Partnership development with Visit NH

*2026 Estimate

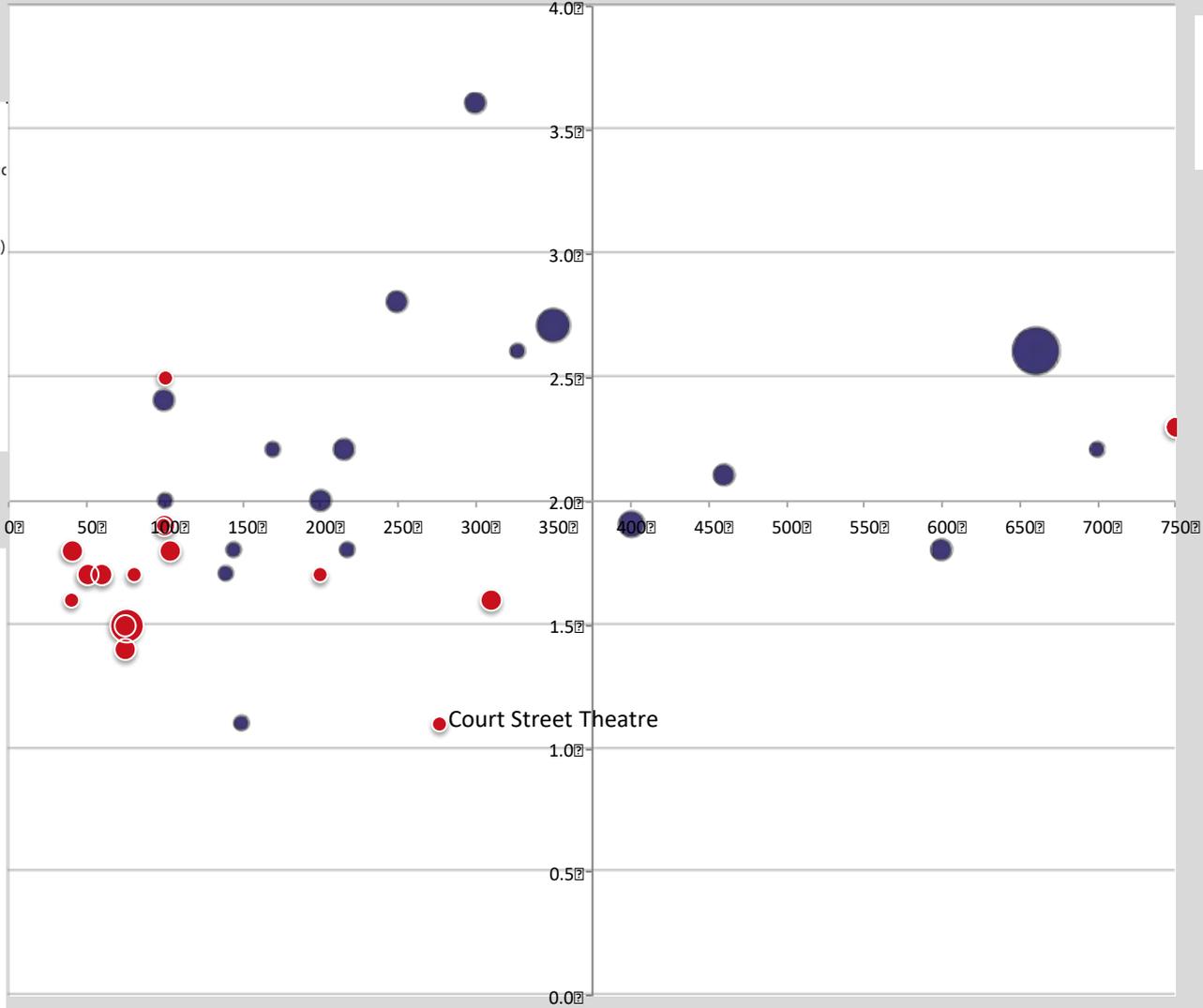


Facility Rating vs. Capacity (0 to 750 seats)

- Elm Street Middle School: Keefe Auditorium
- Nashua High School North
- Nashua High School South
- Nashua Community College: Judd Gregg Hall Auc
- Court Street Theatre: Janice B. Streeter Theatre
- The Peddler's Daughter
- Stella Blu
- Chunky's Cinema Pub (Headliners Comedy Club)
- Unitarian Universalist Church: Auditorium*
- Hunt Building
- Riverwalk Café + Music Bar
- Public Library: NPL Theater
- Nashua Community Music School: Recital Hall
- Fody's*
- Country Tavern: Loft
- Country Tavern: Tack Room
- Public Library: Music/Art/Media Wing*
- Public Library: Children's Room*

Regional

- Lowell Memorial Auditorium
- Chevalier Theater
- Robinson Theatre
- Undisclosed Facility: Concert Hall•
- Palace Theater
- Stockbridge Theatre
- Somerville Theatre
- Millford Town Hall: Grand Ballroom
- St. Anselm College Dana Center: Koonz Theatre
- Peterborough Town House
- Amato Center for the Performing Arts
- Derryfield Theatre: Nancy S. Boettiger Theatre
- Stoneham Theatre
- Derry Opera House
- Undisclosed Facility: Recital Hall•
- Peterborough Players
- Southern New Hampshire: Walker Auditorium
- Ledy Center
- Tupelo Music Hall
- The Executive Court Banquet Facility
- Franklin Pierce University: Warehouse Theatre
- The Radisson Hotel (Headliners Comedy Club)
- Old Town Hall
- Franklin Pierce University: Cheney Music Hall
- Andy's Summer Playhouse



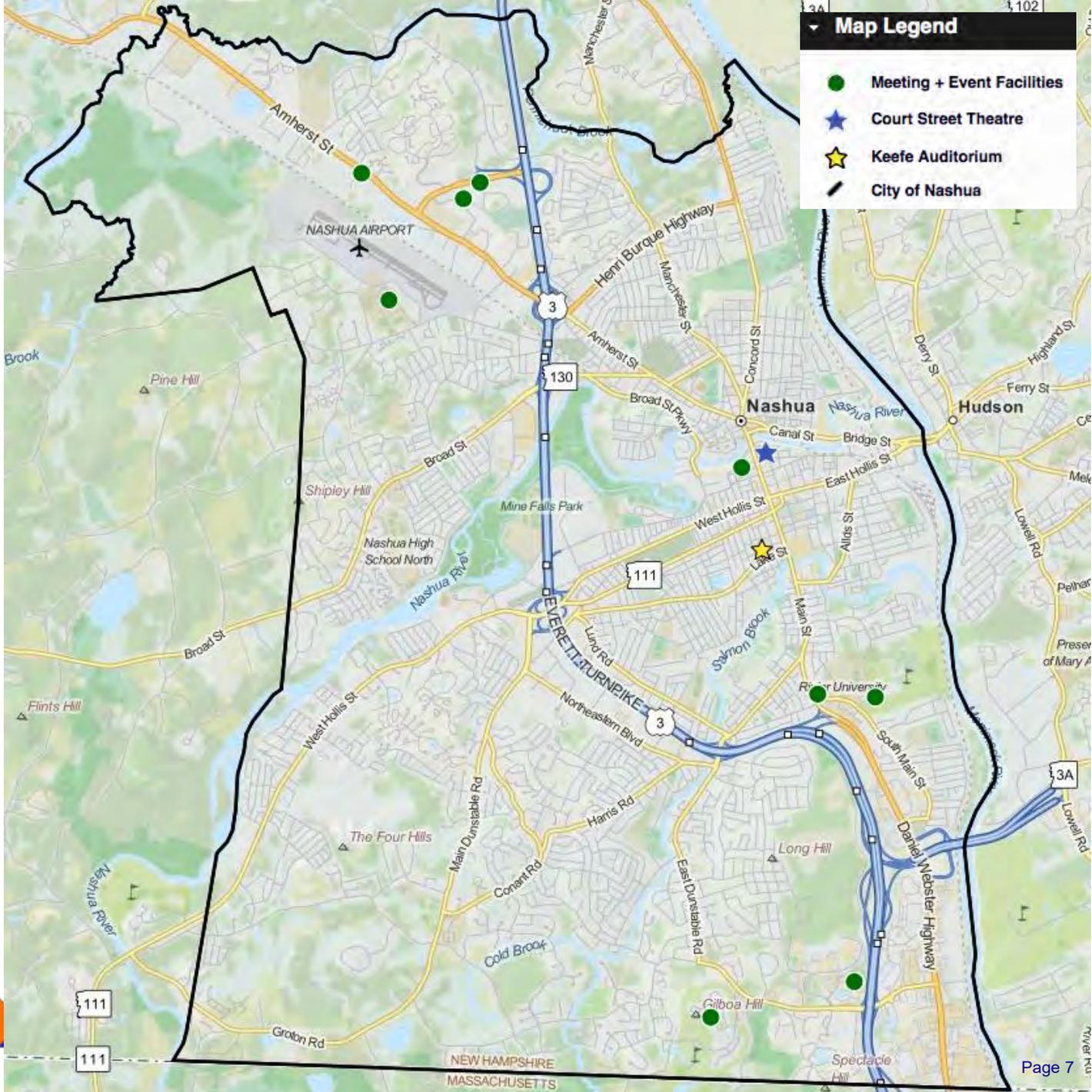
- Local Facilities
- Regional Facilities



Existing meeting + event facilities

Map Legend

- Meeting + Event Facilities
- ★ Court Street Theatre
- ★ Keefe Auditorium
- City of Nashua



- Facilities Mapped:**
- Courtyard Marriott Hotel
 - Crowne Plaza
 - Holiday Inn Hotel + Suites
 - Radisson Hotel
 - Nashua Country Club
 - Sky Meadow Country Club
 - Welcoming Light, Inc.
 - Country Tavern
 - Daniel Webster College
 - Rivier University



Utilization: user demand

User Demand: Performance Classroom Space	Rehearsal/ Tech	Performances	Other	Total	Capacity	Classroom Space Demand
Symphony New Hampshire	7	15	1	23	1100	-
Actorsingers (Large Space)	16	6	-	22	750	-
Gate City Charter School for the Arts	-	2	45	47	500	-
Positive Street Art	4	4	-	8	500	-
Spartans Drum & Bugle Corps*	-	-	2	2	500	-
Steve Ruddock/Riverwalk Café	-	24	-	24	400	-
Peacock Players	30	36	166	232	350	166
Actorsingers (Small Space)	16	6	-	22	350	-
North Main Music School	2	2	-	4	300	2
Nashua Community Music School	10	10	-	20	250	312
Nashua Chamber Orchestra	-	9	-	9	200	-
Blue String Marionettes	-	4	-	4	200	-
Nashua North High School: Theatre Arts	8	6	-	14	100	-
Daniel D. Rokswain (Dance Instructor)	-	-	-	0	-	208
Sheetal Kelkar (Indian Dance Instructor)	-	-	-	0	-	3
Total Days of Use:	93	124	214	431	-	691

*estimated capacity



User Demand Summary: Performance Facilities (13 Users)*	Rehearsal/ Tech	Performances	Other	Total
750+ Seats (2 Users)	23	21	1	45
351 to 500 Seats (4 Users)	4	30	47	81
350 Seats or fewer (7 Users)	66	73	166	305
Total Days of Use:	93	124	214	431

*Actorsingers is counted twice to account for demand for a multiple facilities



Utilization: charrette results

Calendar Totals			600-seat Hall			300-seat Hall			150-seat Multipurpose Space		
Group	Abb.	Disc.	Event Days	Prep Days	Total	Event Days	Prep Days	Total	Event Days	Prep Days	Total
Actorsingers	A/S	TH	6	10	16	9	21	30			0
BlueString Marionettes	TLM	TH			0			0	24	24	48
City of Nashua	City	X	10		10			0			0
Ghostlight Theater Company	GL	TH			0			0	12	13	25
Great American Downtown	GAD	X			0	57	5	62			0
Hear Now Live	HNL	AM			0			0	16		16
Nashua Theatre Guild	NTG	TH			0			0	7	14	21
Peacock Players	PP	TH			0	139	61	200			0
Symphony NH	SNH	UM	2	2	4	4	8	12			0
			18	12	30	209	95	304	59	51	110
Totals by Discipline			600-seat Hall			300-seat Hall			150-seat Multipurpose Space		
Discipline	Abb.		Event Days	Prep Days	Total	Event Days	Prep Days	Total	Event Days	Prep Days	Total
Theatre	TH		6	10	16	148	82	230	43	51	94
Dance	D		0	0	0	0	0	0	0	0	0
Amplified Music/Ent.	AM		0	0	0	0	0	0	16	0	16
Unamplified Music	UM		2	2	4	4	8	12	0	0	0
Opera	O		0	0	0	0	0	0	0	0	0
Talks	TA		0	0	0	0	0	0	0	0	0
Other	X		10	0	10	57	5	62	0	0	0
			18	12	30	209	95	304	59	51	110



Utilization: key potential partners

- * ***The Educational Sector:*** Nashua and the surrounding region are home to multiple educational institutions, including Rivier University, Nashua Community College, Daniel Webster College, the University of New Hampshire, and Southern New Hampshire University. A partnership with one or more of these entities would connect new arts spaces to an experienced facility operator, ensure a certain level of use, and provide a certain amount of financial stability.
- * ***Local Developers:*** There are handful of active developers in Nashua working to repurpose the city's former warehouses. Some of these projects have been very arts-friendly (The Nashua Area Artists' Association Gallery is currently housed in a commercial building downtown, which also displays the work of local artists throughout the building).
- * ***The Tech + Business Communities:*** Nashua's tech and business communities are growing. New arts facilities could be used for product launches, retreats, customer appreciation events, and so on.



Benefits + impacts

* The Nashua Arts Commission released the **Nashua Arts + Cultural Plan** in 2015. The plan outlined six primary goals for the arts in Nashua:

<p>Identity: Create a unique brand to represent Nashua’s culture that distinguishes the city within the region.</p>	<p>Centralization: Develop a collaborative citywide association of arts and culture by understanding and leveraging digital networks and existing venues and spaces within the city.</p>
<p>Education: Engage residents of all ages, backgrounds, and abilities in arts and culture by raising awareness from a young age and integrating culture into educational, recreational, and social activities.</p>	<p>Marketing: Attract visitors and residents to local events by publicizing the Nashua cultural brand through strategic outreach and promotion of the arts to both local and broader audiences.</p>
<p>Commerce: Produce new economic opportunities for the city by integrating the arts into public and business policies, stimulating Nashua to evolve as a sustainable, resilient, and livable community.</p>	<p>Growth: Encourage proliferation, prosperity, and visibility for both existing and emerging organizations in the arts.</p>

The development of new arts facilities is in line with many of these goals, particularly identity, centralization, education, and commerce.



Conclusions

- * **The market:** The market is diverse. In all market segments, there are varying levels of educational attainment, household income, races and ethnicities, and ages. This indicates a need for programming that ranges from the hands-on to the traditional, with a range of different price points.
- * **Existing facilities:** Nashua is located in a crowded arts market with a number of facilities that present national touring products. In addition, there are two new facilities planned for one of Nashua's neighboring communities, one of which will present touring musical acts. Even with these facilities, a gap remains for high-quality theatre and dance space. An additional gap exists for meetings and events.
- * **User demand:** There is significant demand for performance facilities with 350 seats or fewer, and also for 500 to 700 seats. An additional 691 days of demand exists for classroom space.
- * **Benefits + impacts:** New arts facilities align with many of the goals identified in the Arts Commission's Arts and Culture Plan, as well as with goals identified in the City's 2010 Consolidated Plan.



Recommendations

- * We presented a series of options to the City in May 2016. Based on feedback, we determined that the best course of action was to consider the development of a new 500-700 seat arts and events venue that could serve a range of nonprofit arts groups and commercial promoters, also responding to demand for a downtown meeting and event venue.
- * We also recommended the development of small and affordable spaces for local groups, potentially through the redevelopment of Court St.
- * Finally, we advocated for the development of a downtown arts district including existing and new facilities.



A large crowd of people is gathered at what appears to be a festival or event. In the background, a balcony or walkway is visible with several people standing on it. The entire scene is overlaid with a semi-transparent orange-red filter.

City of Nashua, NH
Performing Arts and Events Center
Concept Design / Planning Study

January 2017

Bruner/Cott
architects and planners

ASPIRATIONS

Visible, Accessible, Vibrant



ASPIRATIONS

Theater, Music, Arts, Events



INITIAL STUDY SITES

SELECTION CRITERIA

- Access to parking
- Visibility on Main Street
- Proximity to retail
- Adequate footprint

SPRING ST

17,500 sf footprint

MAIN ST

14,500 sf footprint

COURT ST

13,500 sf footprint

WATER ST

11,000 sf footprint

INDIAN HEAD BANK

8,500 sf footprint

SITES SELECTED FOR FURTHER STUDY

SPRING STREET

32,500 sf, 3 floors



new construction

COURT STREET

33,900 sf, 3 floors



interior and exterior renovation

MAIN STREET

30,800 sf, 2 floors



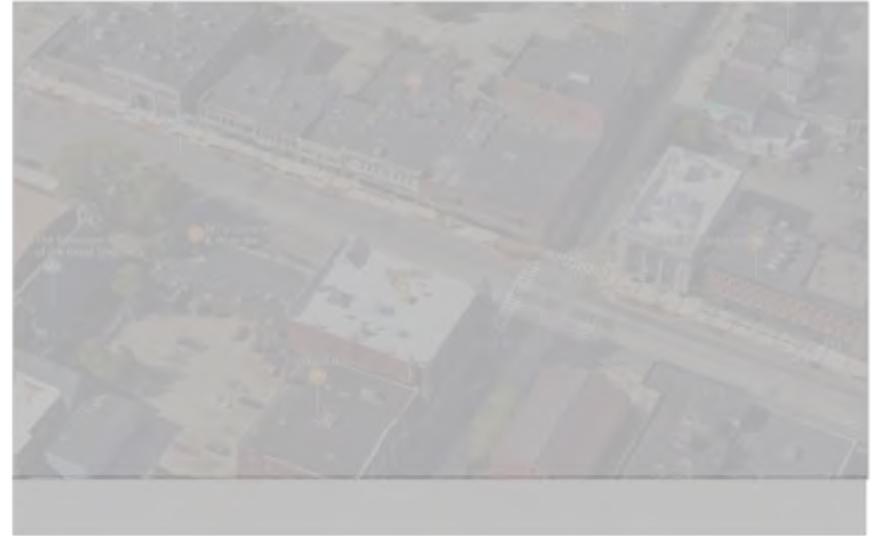
interior and exterior renovation

COMMUNITY RESOURCE

SPRING STREET



MAIN STREET



COURT STREET

33,900 sf, 3 floors



interior and exterior renovation

Lower Court St.

- * There is consensus in the community that Court St. should be improved as and when possible.
- * A portion of the building could be restored for use by local theater groups, including a theater, rehearsal space and support areas.
- * That portion could be operated as a co-op between the groups, or as a lease to one user with conditions motivating rentals to others.
- * The City's financial goal should be to have user groups pay rent sufficient to cover core building expenses.
- * Users provide all services in and for the building, except capital repairs.



COURT STREET COMMUNITY THEATER



Street Level

Lower Level

COURT STREET COMMUNITY THEATER

Capacity

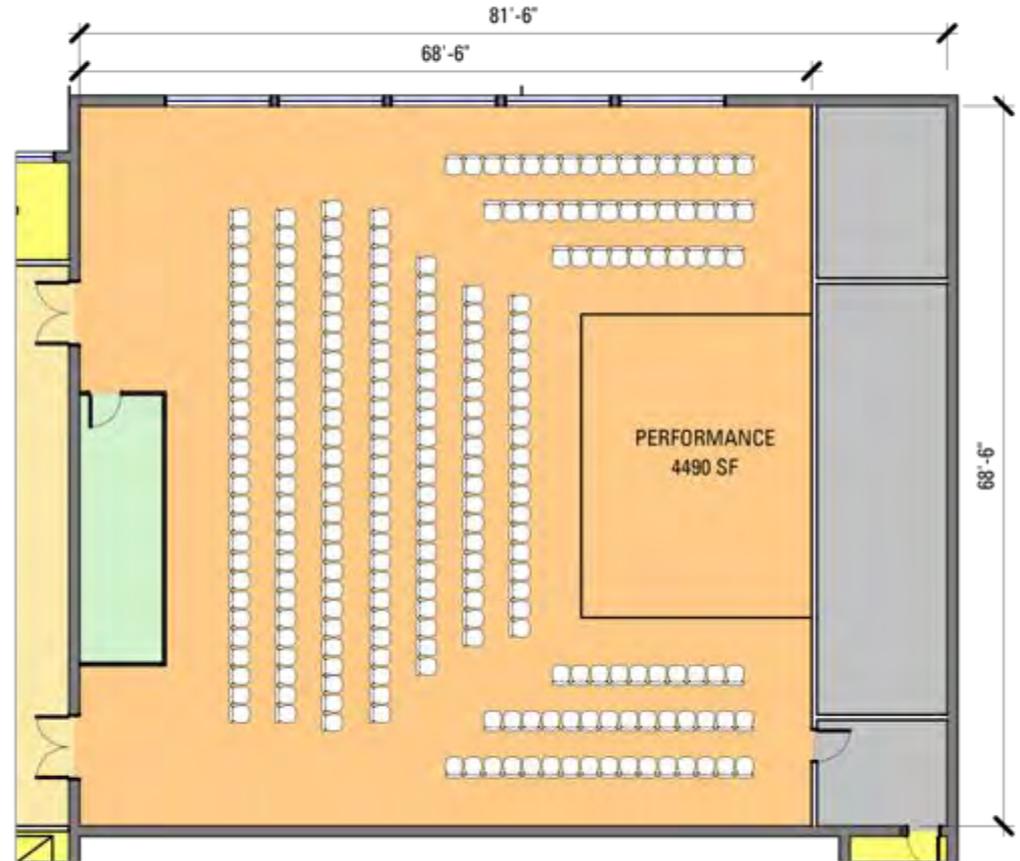
250 tiered seating
640 standing
320 tables & chairs

Scope

19,000-30,000 sf
interior renovation, exterior repair
new HVAC and electrical systems,
upgraded program space

Budget

\$2.5-5.0m projected investment



THEATER LAYOUT - 250 SEATS

Operating Budget for Court St.

	FY2014	FY2015	FY2016	FY2017	%	FY2018	%	FY2019	%	FY2020	%	FY2021
	Actual	Actual	Actual	Budget	Chg	Projected	Chg	Projected	Chg	Projected	Chg	Projected
Revenues												
Monthly Rental	9,000	9,000	9,000	9,000		24,000		24,720		25,462		26,225
Activity-based Rentals	34,200	39,300	24,825	35,000		44,632		48,967		52,210		55,674
Secondary Space Rental						5,000		5,618		6,134		6,697
	43,200	48,300	33,825	44,000		73,632		79,305		83,805		88,596
Expenses												
Building Manager	2,050	2,110	2,173	2,260								
Maintenance Specialist	7,764	8,022	18,181	18,908	3%	19,475	3%	20,060	3%	20,662	3%	21,281
Building Services	1,250	1,400	1,400	900		1,518		1,563		1,610		1,658
Utilities	34,228	37,228	41,877	51,500		43,425		44,727		46,069		47,451
Supplies	522	1,066	1,515	2,500		1,757		1,809		1,864		1,920
Maintenance	9,714	8,996	11,317	12,500		8,783		9,047		9,318		9,598
	55,528	56,822	76,463	88,568		74,958		77,206		79,523		81,908
Result of Operations	-12,328	-8,522	-42,638	-44,568		-1,326		2,099		4,282		6,687
GSF	33,800	33,800	33,800	33,800		19,000		19,000		19,000		19,000
Building Services/sf	\$ 0.04	\$ 0.04	\$ 0.04	\$ 0.03	200%	\$ 0.08	3%	\$ 0.08	3%	\$ 0.08	3%	\$ 0.09
Utilities/sf	\$ 1.01	\$ 1.10	\$ 1.24	\$ 1.52	50%	\$ 2.29	3%	\$ 2.35	3%	\$ 2.42	3%	\$ 2.50
Supplies/sf	\$ 0.02	\$ 0.03	\$ 0.04	\$ 0.07	25%	\$ 0.09	3%	\$ 0.10	3%	\$ 0.10	3%	\$ 0.10
Maintenance/sf	\$ 0.29	\$ 0.21	\$ 0.33	\$ 0.37	25%	\$ 0.46	3%	\$ 0.48	3%	\$ 0.49	3%	\$ 0.51
CPI Escalator					3%		3%		3%		3%	

Main Tenant Rental												
Rental Period				Monthly		Monthly		Monthly		Monthly		Monthly
Rent/Period				\$ 250.00		\$ 2,000.00	3%	\$ 2,060.00	3%	\$ 2,121.80	3%	\$ 2,185.45
Rentals				36		12		12		12		12
Effective Rent/sf				\$ 0.27		\$ 1.26		\$ 1.30		\$ 1.34		\$ 1.38
Theater Space Rentals												
Rental Period				Daily		Daily		Daily		Daily		Daily
Rent/Period				\$ 300.00	3%	\$ 309.00	6%	\$ 327.54	3%	\$ 337.37	3%	\$ 347.49
Rentals				117	3%	120	3%	124	3%	127	3%	131
Rehearsal Hall Rentals												
Rental Period						Four-hour		Four-hour		Four-hour		Four-hour
Rent/Period						\$ 50.00	6%	\$ 53.00	3%	\$ 54.59	3%	\$ 56.23
Rentals						100	6%	106	6%	112	6%	119
Classroom Rentals												
Rental Period						Four-hour		Four-hour		Four-hour		Four-hour
Rent/Period						\$ 25.00	6%	\$ 26.50	3%	\$ 27.30	3%	\$ 28.11
Rentals						100	6%	106	6%	112	6%	119

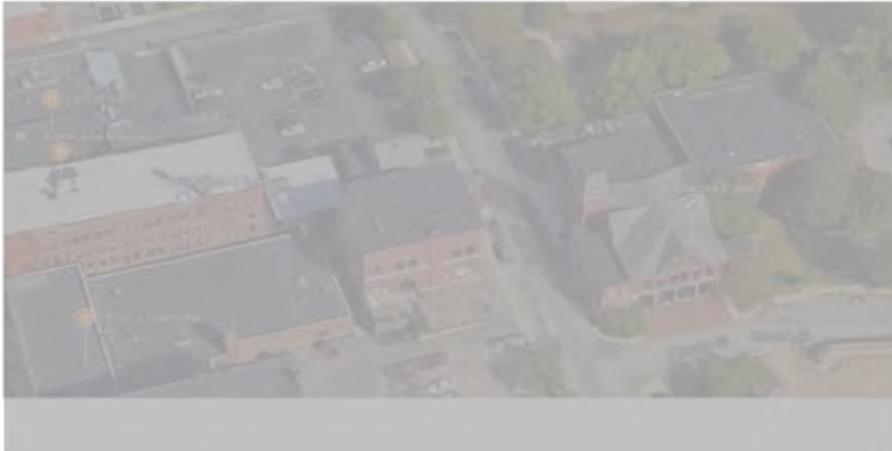


PREFERRED DEVELOPMENT SITE

SPRING STREET



COURT STREET



MAIN STREET



- Access to parking
- Visibility on Main Street
- Proximity to retail
- Adequate footprint

MAIN STREET PERFORMING ARTS CENTER



MAIN STREET PERFORMING ARTS CENTER



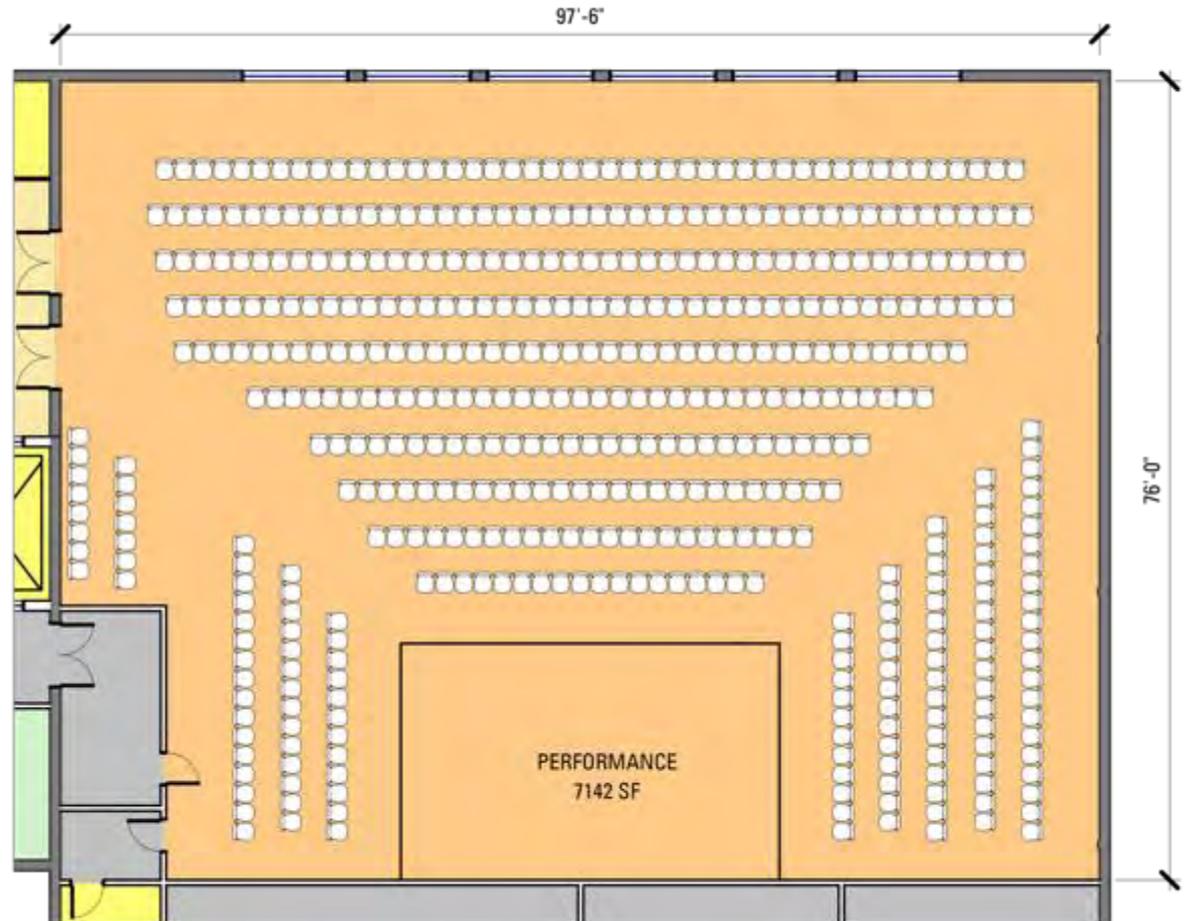
MAIN STREET PERFORMING ARTS CENTER

Capacity

500 tiered seating

1,000 standing

550 tables & chairs



THEATER LAYOUT - 500 SEATS

MAIN STREET PERFORMING ARTS CENTER



MAIN STREET PERFORMING ARTS CENTER

Scope

30,000 total sf, 2 floors

interior and exterior renovation

new theater, support facilities, entry lobby, event space, retail

Budget

\$15.5m projected total project cost

Before



After



Operating goals for a new arts + events center

- * Present high-quality arts and entertainment programming of interest to the permanent population and other visitors to the area.
- * Support local businesses, government and citizens with professional meeting and event facilities.
- * Provide affordable access to well-equipped performance, rehearsal, and support spaces for users that are working towards the cultural development of Nashua and the region.
- * Contribute to the economic vitality of Nashua and the wider region with active facilities that drive economic and community development.
- * Utilize a sustainable business model primarily driven by earned income.



Governance recommendations

In this case we recommend that the City of Nashua be the owner and and operator, with at least two partners:

1. A foundation to raise money and represent the interests of the private sector.
2. A programmer to bring cultural and entertainment events to the new facility.

We make this recommendation given:

- * The City has the resources and the ability to recruit the skills required to manage the Center, and the City's mandate to serve local residents is consistent with our operating goals of providing access and support to local and regional residents and visitors.
- * The Foundation can play a role through the renovation, leading the private sector component of the capital campaign and providing guidance and advice to the City as the project advances. Once the Center opens, the Foundation can play an ongoing role in fundraising for annual support, taking some responsibility for programming, education, and outreach. That promise of an ongoing role will be important to drive private sector financial support for construction and operations.
- * A programmer can be solicited through a competitive bid process and be contracted to take the risk on programming the Center.

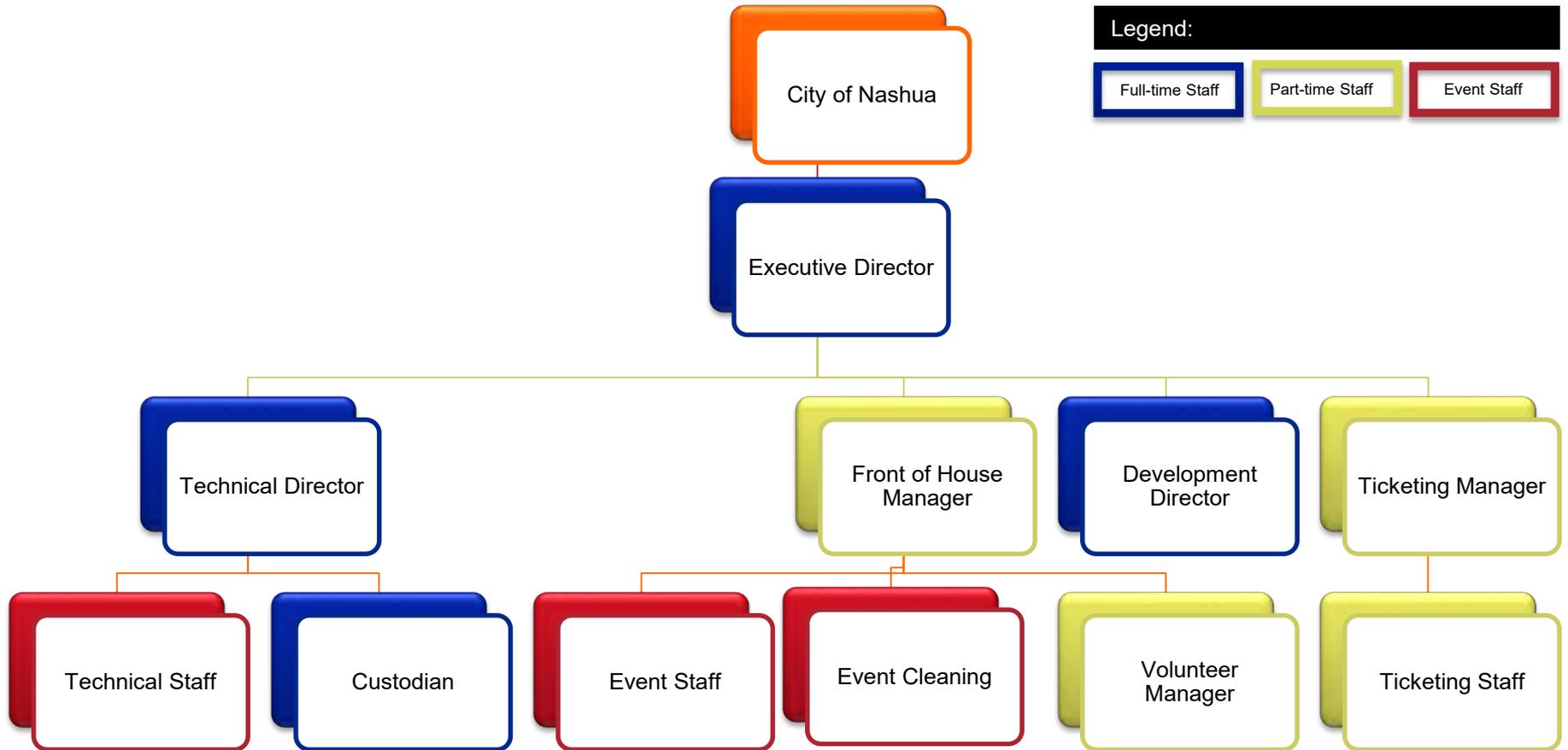


Operating policy

- * Access + scheduling
- * Rental rates + fees
- * Resident status for particular groups
- * Ticketing + analytics
- * Food + beverage operations
- * Volunteer leadership + support
- * Green operations



Staffing plan



Pro-forma operating budget

- * A live, Excel-based model that starts with activity estimates.
- * The year before the theatre opens, plus five years of operations.
- * Fully-developed staff and infrastructure to support programming estimates – from the outset.



Reference Points: Facility Characteristics

	Colonial Theatre (Keene, NH)	Spruce Peak Performing Arts Center (Stowe, VT)	Ridgefield Playhouse (Ridgefield, CT)	Historic Town Hall Theatre (Woodstock, VT)
Owner	Nonprofit	Nonprofit	Nonprofit	Town
Operator	Nonprofit	Nonprofit	Nonprofit	Nonprofit
Theater Capacity	888	420	500	400
Other Public Spaces	Colonial Corner (60)	Various event spaces within Stowe Mountain Resort	Party room (100)	Meeting room(s)

Reference Points: Staffing Levels

	Colonial Theatre (Keene, NH)	Spruce Peak Performing Arts Center (Stowe, VT)	Ridgefield Playhouse (Ridgefield, CT)	Historic Town Hall Theatre (Woodstock, VT)
Payroll Expenses	\$530,369	\$462,114	\$581,689	\$175,536
Payroll Expenses (as % of Operating Expenses)	32%	31%	13%	27%
Staff	35	19	122	24
Board Members	12	6	15	13
Executive Director Base Salary	\$81,351	-	-	\$47,000

Reference Points: Income

	Colonial Theatre (Keene, NH)	Spruce Peak Performing Arts Center (Stowe, VT)	Ridgefield Playhouse (Ridgefield, CT)	Historic Town Hall Theatre (Woodstock, VT)
Year of Budget	2015	2013	2014	2015
Rental Income	\$44,850	\$55,115	\$44,173	\$9,709
Total Earned Income	\$807,374	\$243,205	\$3,975,758	\$262,356
Contributed Income from Public Sources	N/A	\$0	\$50,795	\$71,100
Contributed Income from Private Sources (Foundation, Corporate, Individuals, Events)	N/A	\$243,205	\$670,003	\$243,768
Total Contributed Income	\$487,424	\$312,451	\$720,798	\$314,868
Total Operating Expenses	\$1,638,254	\$1,484,948	\$4,621,049	\$647,872
Operating Surplus (Deficit)	(\$231,677)	(\$929,081)	\$365,731	(\$49,095)
Earned Income (as % of Operating Expenses)	49%	16%	86%	40%

Pro-forma operating budget

Pro-forma Activity Summary		Year 1	Year 2	Year 3	Year 4	Year 5
Main Theater	Performances	76	76	81	84	88
	Use Days	172	174	181	187	194
Multipurpose Room	Use Days	90	93	95	90	93
Estimated Performance Attendance		25,150	24,400	26,255	27,650	29,340
Estimated Base Rent Collected	Resident Users	\$ 30,750	\$ 30,753	\$ 32,812	\$ 33,561	\$ 35,774
	Other nonprofits	\$ 31,500	\$ 32,283	\$ 34,957	\$ 37,248	\$ 40,104
	Commercial user	\$ 47,250	\$ 51,179	\$ 55,245	\$ 58,738	\$ 63,079
	Total	\$ 109,500	\$ 114,215	\$ 123,014	\$ 129,547	\$ 138,957



Pro-forma operating budget

Pro-forma Budget Summary	Pre-Opening	Year 1	Year 2	Year 3	Year 4	Year 5
Earned Income						
Ticket Sales		117,000	105,570	114,496	129,467	136,874
Rental Income		191,250	199,308	211,552	221,076	234,130
Theater User Fees		229,500	239,170	253,863	265,291	280,956
Food Service		36,650	37,832	42,360	50,036	54,538
Miscellaneous Income		120,600	119,772	130,512	140,508	151,348
		695,000	701,651	752,783	806,378	857,846
Contributed Income						
Individual Contributions	☞ 0	25,000	25,500	26,010	26,530	27,061
Corporate Contributions	☞ 0	25,000	25,500	26,010	26,530	27,061
Foundation Grants	☞ 0	25,000	25,500	26,010	26,530	27,061
Government (non-local)	☞ 0	25,000	25,500	26,010	26,530	27,061
Endowment Income	160,000	160,000	160,000	160,000	160,000	160,000
	160,000	260,000	262,000	264,040	266,121	268,243
Total Income	160,000	955,000	963,651	1,016,823	1,072,499	1,126,090
Operating Expenses						
Total Personnel	185,250	474,235	491,597	513,429	535,187	558,869
Programming Costs	0	119,250	110,344	117,690	131,590	137,255
Fundraising	10,000	20,000	21,000	22,050	23,153	24,310
Box Office	0	51,295	50,454	54,762	58,987	63,763
Administration	23,500	49,500	51,975	54,574	57,302	60,168
Occupancy Costs	0	210,000	214,200	218,484	222,854	227,311
Total Operating Expenses	218,750	924,280	939,570	980,989	1,029,072	1,071,676
Result of Operations	-58,750	30,720	24,081	35,834	43,427	54,414
Allocation from Capital Budget	75,000	0	0	0	0	0
Allocation to Capital Reserve	0	0	0	0	25,000	50,000
Final Result	16,250	30,720	24,081	35,834	18,427	4,414
Earned Income/Op Expenses	0	75%	75%	77%	78%	80%



Economic impact analysis

- * Calculates the economic impacts of building and operating new facilities in Nashua.
- * Informed by RIMS Type II multipliers purchased from the Federal Bureau of Labor for Hillsborough County.
- * Direct, indirect, and induced impacts based on construction, operations, and audiences.
- * Year three of operations for new facilities.



Economic impacts - quantitative

One-time Impacts of Construction on Hillborough County		
Input - Construction Budget		\$ 12,000,000
Outputs	Final Demand Multipliers (Industry 2332C0)	Project Outputs
Sales	1.6609	\$ 19,930,800
Earnings	0.4942	\$ 5,930,400
Employment (person-years of employment)	9.3501	112



Economic impacts - quantitative

Annual Operating Impacts on Hillsborough County

Bill of Goods Approach (Year 3)

Category	Inputs		\$ Spent in Hillsborough county	Multipliers			Outputs		
	Current Non-personnel expenditures	% Spent in Hillsborough county		Output (dollars)	Earnings (dollars)	Empl't (jobs)	New Sales (\$000's)	Earnings (\$000's)	New Empl't (jobs)
Power Generation and Supply	\$ 70,000	75%	\$ 52,500	1.3076	0.1771	2.7695	\$ 91,532	\$ 12,397	0.2
Water, Sewage and other System	\$ 10,000	50%	\$ 5,000	1.4491	0.2471	5.0512	\$ 14,491	\$ 2,471	0.1
Retail Trade	\$ 10,000	75%	\$ 7,500	1.6216	0.3829	12.2031	\$ 16,216	\$ 3,829	0.1
Transit & Passenger Transportation	\$ 5,000	75%	\$ 3,750	1.7387	0.5255	17.4619	\$ 8,694	\$ 2,628	0.1
Telecommunications	\$ 20,000	75%	\$ 15,000	1.6276	0.4569	5.5586	\$ 32,552	\$ 9,138	0.1
Insurance Agencies/Brokerage	\$ 60,000	50%	\$ 30,000	1.9672	0.4342	8.0480	\$ 118,032	\$ 26,052	0.5
Equipment Rental	\$ 25,000	50%	\$ 12,500	1.4387	0.2703	4.2671	\$ 35,968	\$ 6,758	0.1
Legal Services	\$ 10,000	75%	\$ 7,500	1.6068	0.4717	8.6561	\$ 16,068	\$ 4,717	0.1
Accounting & Bookkeeping Services	\$ 25,000	75%	\$ 18,750	1.5486	0.4710	10.5265	\$ 38,715	\$ 11,775	0.3
Computer related services	\$ 25,000	50%	\$ 12,500	1.6360	0.4924	9.9939	\$ 40,900	\$ 12,310	0.2
Advertising & related services	\$ 50,000	50%	\$ 25,000	1.5798	0.3106	7.8755	\$ 78,990	\$ 15,530	0.4
Professional & Technical Services	\$ 10,000	50%	\$ 5,000	1.6217	0.4156	7.1682	\$ 16,217	\$ 4,156	0.1
Office administrative services	\$ 20,000	75%	\$ 15,000	1.6552	0.6029	9.9704	\$ 33,104	\$ 12,058	0.2
Business support services	\$ 15,000	50%	\$ 7,500	1.7086	0.4927	13.2562	\$ 25,629	\$ 7,391	0.2
Services to building	\$ 15,000	75%	\$ 11,250	1.5653	0.3745	13.0903	\$ 23,480	\$ 5,618	0.2
Waste management	\$ 10,000	100%	\$ 10,000	1.5719	0.3043	6.2824	\$ 15,719	\$ 3,043	0.1
Other Educational Services	\$ 15,000	75%	\$ 11,250	1.7992	0.5508	18.8192	\$ 26,988	\$ 8,264	0.3
Performing arts companies	\$ 25,000	50%	\$ 12,500	1.6305	0.3863	17.6982	\$ 40,763	\$ 9,658	0.4
Promoters of performing arts	\$ 25,000	25%	\$ 6,250	1.7006	0.3491	15.0659	\$ 42,515	\$ 8,728	0.4
Accommodation	\$ 5,000	100%	\$ 5,000	1.5589	0.3542	11.2025	\$ 7,795	\$ 1,771	0.1
Food services	\$ 10,000	75%	\$ 7,500	1.6308	0.2822	10.9680	\$ 16,308	\$ 2,822	0.1
Postal Service	\$ 15,000	100%	\$ 15,000	1.5243	0.4781	8.5129	\$ 22,865	\$ 7,172	0.1
Averages and Totals	\$ 480,000		\$ 281,250	1.6174	0.3977	10.2825	\$ 740,674	\$ 171,111	4.1



Economic impacts - quantitative

Estimating Audiences

Year 3 Paid Theater Attendance		26,000
Hillborough County Attenders	70%	18,200
Recovered County Attenders	20%	5,200
Non-County Attenders	30%	7,800

Ancillary Spending Impacts of the Center Theatre on Hillborough County

Ancillary Spending Impacts	Per Capita Expenditure Estimate	Total Direct (Induced) Expenditures	Output Multiplier	Total New Outputs (Sales)	Earnings Multiplier	Total New Earnings	Job Creation Multiplier	Total New Jobs
1. Recovered Hillborough County Attenders								
Food Services	\$ 11.16	\$ 58,032	1.6308	\$ 94,639	0.2822	\$ 16,377	10.9680	0.6
Retail Trade	\$ 3.41	\$ 17,732	1.6216	\$ 28,754	0.3829	\$ 6,790	12.2031	0.2
Transportation	\$ 1.63	\$ 8,476	1.7387	\$ 14,737	0.5255	\$ 4,454	17.4619	0.1
Accommodation	\$ 0.29	\$ 1,508	1.5589	\$ 2,351	0.3542	\$ 534	11.2025	0.0
Miscellaneous	\$ 0.92	\$ 4,784	1.6174	\$ 7,737	0.3977	\$ 1,903	10.2825	0.0
Sub-total		\$ 90,532		\$ 148,218		\$ 30,057		1.1
2. Non Hillsborough County Attenders								
Food Services	\$ 17.39	\$ 135,642	1.6308	\$ 221,205	0.2822	\$ 38,278	10.9680	1.5
Retail Trade	\$ 5.40	\$ 42,120	1.6216	\$ 68,302	0.3829	\$ 16,128	12.2031	0.5
Transportation	\$ 4.83	\$ 37,674	1.7387	\$ 65,504	0.5255	\$ 19,798	17.4619	0.7
Accommodation	\$ 10.39	\$ 81,042	1.5589	\$ 126,336	0.3542	\$ 28,705	11.2025	0.9
Miscellaneous	\$ 1.95	\$ 15,210	1.6174	\$ 24,600	0.3977	\$ 6,050	10.2825	0.2
Sub-total		\$ 311,688		\$ 505,947		\$ 108,958		3.7
Total Impact of Ancillary Spending	Total (1+2)	\$ 402,220		\$ 654,165		\$ 139,015		4.8

* Based on Americans for the Arts Prosperity Index V (2012)



Economic impacts - quantitative

Summary of Economic Impacts on Hillsborough County		
Construction Impacts	Input (Local Expenditures)	\$12,000,000
	Output (Sales)	\$19,930,800
	Earnings	\$5,930,400
	Jobs Created (person-years)	112
Ongoing Annual Impacts Operations	Input (Year 3 Spending)	\$460,000
	Output (Sales)	\$740,674
	Earnings	\$171,111
	Jobs Created (annual)	4
Audience Spending	Input (Year 3 Spending)	\$402,220
	Output (Sales)	\$654,165
	Earnings	\$139,015
	Jobs Created (annual)	5
Total Annual Operating Impacts	Output (Sales)	\$1,394,839
	Earnings	\$310,126
	Jobs Created (annual)	9



Economic impacts - qualitative

- * A catalytic project for the redevelopment of downtown Nashua.
- * Attracting companies, workers, and residents to downtown Nashua.
- * A key attraction within a district for tourism development.



NASHUA PERFORMING ARTS FACILITIES CRITICAL PATH PLAN

		2017		2018				2019				2020				
Responsibility		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Track One: Fundraising																
Bond request	City	█														
Form endowment campaign	City	█														
Capital campaign targets	Capital Campaign Committee		█													
Engage campaign consultant	Capital Campaign Committee		█													
Campaign planning	Campaign Consultant			█												
Endowment campaign	Campaign Consultant			█	█											
Bonds issued	City				█	█		█	█							
Naming rights secured	Campaign Consultant							█	█							
Track Two: Planning, Design & Construction																
Form Building Committee	City	█														
Design team contracting	Building Committee		█													
Programming and costing study	Building Committee		█	█												
Schematic design	Building Committee			█												
Design development	Building Committee			█	█											
Contract documents	Building Committee				█	█		█	█							
Bid period	Building Committee							█	█							
Construction	Building Committee									█	█	█	█	█		
Commissioning	Building Committee													█		
Track Three: Planning for Operations																
Form Operations Committee	City				█											
Develop resident application guidelines	Operations Committee				█											
Accept resident applications	Operations Committee					█										
Negotiate resident organization agreements	Operations Committee						█									
Programming strategy approval	Operations Committee					█										
Annual programming approval	Operations Committee						█									
Define ticketing system needs	Operations Committee							█								
Develop ticketing system RFP	Operations Committee								█							
Ticketing system in place	Staff									█						
Develop food and beverage RFP	Operations Committee							█								
Develop preferred caterer guidelines	Operations Committee								█							
Select concessionaire (as required)	Staff									█						
Select preferred caterers	Staff										█					
Booking policy	Operations Committee											█				
Rental rate schedule	Operations Committee												█			
Rental agreement form	Staff													█		
Insurance plan	Staff														█	
Write technical specifications	Staff															
Maintenance plan	Staff															
Capital replacement plan	Staff															
Safety procedures	Staff															
Train staff	Staff															
Contractors in place	Staff															

MAIN ST. PAC OPENS



Our next steps

- * Recommendation
 - * Pursue \$15.5MM Bond - subject to private donations/contributions being raised in advance for an endowment fund to sustain operations
 - * Immediate Issue(s)
 - * Alec Shoes – An option is necessary
 - * Bond Request – Develop financing plan
 - * Capital Campaign – Develop infrastructure to raise \$4M to capitalize endowment
 - * Seed capital – to advance fundraising and physical planning



Appendix E

Technical Memo For Parking On School Street Site

Cost Proposal
Addition of Ground Level Parking
School Street Lofts
Nashua, NH

Dated: August 20, 2020

The following presents the components of cost included in the proposed addition of publicly accessible ground level parking to a proposed 146 unit multi family apartment project on a city owned parking lot. By elevating the building above the site, the ground floor would include an area for parking (48-50 spaces), a minimum amount of lobby and amenity space, fire stairs landing at grade from the building above, and mechanical spaces so serve the building with power, water, and other infrastructure. Resident parking would not be permitted in this public facility, but rather would occur in the garage located across High Street.

The incremental costs are outlined below:

Construction Hard Costs

General Conditions	\$ 125,000.00
Site Work	\$ 221,600.00
Concrete	\$ 529,000.00
Masonry	\$ 398,700.00
Ceiling and Fireproofing	\$ 238,320.00
Public access controls	\$ 47,800.00
Electric	\$ 202,000.00
Plumbing	\$ 50,000.00
Mechanical	\$ 252,000.00
Elevators (none for parking)	\$ 0.00

Subtotal Hard Cost \$2,064,420.00

Soft Costs

GC Fee and insurance	\$ 309,663.00
Contingency	\$ 178,056.23

Budget Price \$2,552,139.23

Developer Fee (0%)

Note that key to the above assumption is that there is no carry cost (interest or equity return) included in the Grand Total. Further, there is no lobby cost or other finished areas that are for the exclusive use of the residents.

Appendix F

Property Cards

0079 00054
 Sheet Lot Unit# Bldg#

0079-00054
 Parcel ID L SCHOOL ST
 Building Location

Nashua
 Acct: 39889
 Card: 1 of 1 Total Card Total Parcel
 ASSESSED 107,400 / 107,400

PROPERTY LOCATION
 L SCHOOL ST
 NASHUA, NH

OWNERSHIP
 NASHUA, CITY OF
 PO BOX 2019
 229 MAIN ST
 NASHUA, NH 03060-0000

Occ Type

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Val	Yard Items	Land Size	Land Val	Total Val
9030	0	0	29,713.00	107,400	107,400
9030	0	0	0.00	0	0
Building Total	0	0	29,713.00	107,400	107,400
Parcel Total	0	0	29,713.00	107,400	107,400
Source	0 - Mkt Adj Cost				

LEGAL DESCRIPTION
 Desc: HCRD 2841

Lot Size
 Total Land
 Land Unit Type

PREVIOUS ASSESSMENTS

Tx Yr	Cat	Use	Bld Value	Yard Items	Land Size	Land Val	Total Appr	Assessed	Notes	Date
2019	FV	9030	0	0	29,713	107,400	107,400	107,400	Year End Roll	03/04/2020
2018	PATR	9030	0	0	29,713	107,400	107,400	107,400	Corrects for Assessor	01/09/2019
2017	FV	9030	0	0	29,713	94,800	94,800	94,800	Year End Roll	11/06/2017
2016	FV	9030	0	0	29,713	189,500	189,500	189,500	Year End Roll	11/16/2016
2015	FV	9030	0	0	29,713	189,500	189,500	189,500	Year End Roll	11/06/2015
2014	FV	9030	0	0	29,713	189,500	189,500	189,500	Roll	10/06/2015
2013	FV	9030	0	0	29,713	189,500	189,500	189,500	Year End	10/28/2013
2012	FV	9030	0	0	29,713	189,500	189,500	189,500	Year End Roll	11/09/2012

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Price	TSF	Verif.	NAL	Notes
	1802-281		10/12/1966	0	No			

BUILDING PERMITS

Date	Number	Desc	Amount	Closed	Status	Notes	Last Visit

ACTIVITIES

Date	Result	By
05/15/1991	Meas-List	NP

NARRATIVE DESCRIPTION
 This parcel contains 29713.00000 SF of land mainly classified as MUNICIPAL with a building, having primarily Exterior.

OTHER ASSESSMENTS

Code	Desc	Amnt	Comm Int Amnt

PROPERTY FACTORS

Item Code	Item	Code	%
Util 1	C - ALL	Dis 1 NASH	100.0
Util 2		Dis 2	
Util 3		Dis 3	
Census		Zone 1 D1MU	
F. Haz		Zone 2	
Topo	1 - LEVEL	Zone 3	
Street	1 - PAVED		
Traffic			
Exempt			

LAND SECTION

LUC	LUC Desc	Pt	# Units	Depth	U. Type	L. Type	Ft	Base V. Unit Prc	Adj Prc	NBC	Ft	Mod	Inf 1	%	Inf 2	%	Inf 3	%	Appr	All LUC	%	Spec L.V.	Jurfs	L. Ft.	Assessed	Notes
9030	MUNICIPAL	1	29,713		SF	SITE	1	5.74	3.61	CBD	0.95								107,400		0	0	H	1	107,400	
Total ACHA			0.68		Total SF/SM		29,713.00		Parcel LUC	9030 - MUNICIPAL		P. NBC Desc	CENTRAL BUS	Tot	107,400	Tot	0	Tot	107,400		0	Tot	107,400			



Patriot
 PROPERTIES INC.

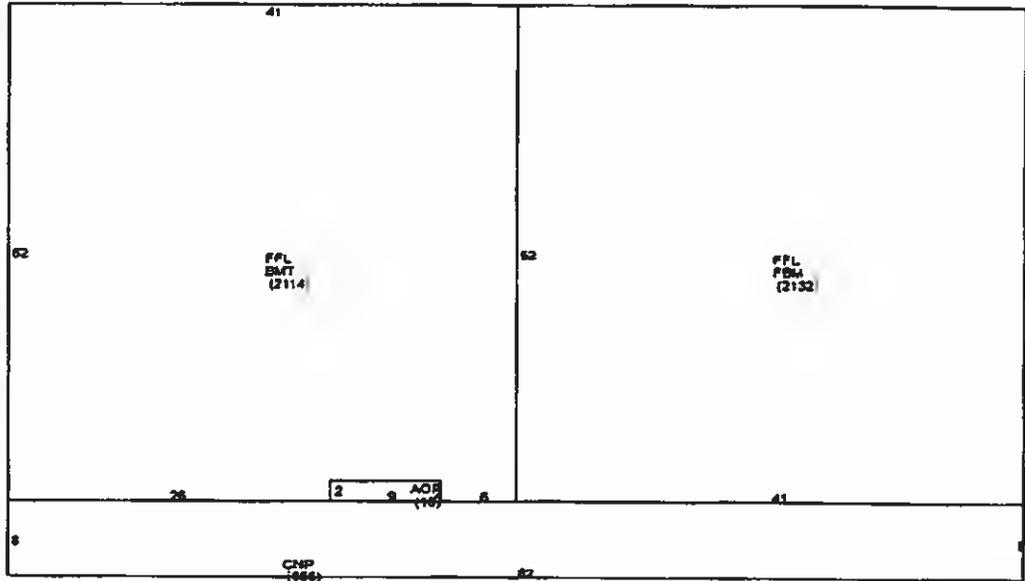
- User Account
- GIS Coord 1
- 1037778.483232
- GIS Coord 1
- 94878.6
- Insp Date
- 05/15/1991
- PRINT
- Date Time
- 8/9/2020 5:13 pm
- LAST REV
- Date Time
- 8/18/17 8:44 am
- pamelaa
- USER DEFINED
- PriorID1a
- Nashua PID
- 79-54
- Plan #
- HCRD 2841
- PriorID1b
- PriorID2b
- PriorID3b
- L
- Code Date
- Code Status
- Nashua Ward
- 4
- Assessor Map

Comments

Parcel ID 0079-00035

Insp. for '14BP=\$100k for fit-up work of new Cranes Asian restr seats 50 (total). Chg 85 to '90. Remove bl cooler & capped gas line. DD 3/15. Insp. for '08BP=\$105k for fit-up for Meena's Indian Restr. Add cooler & chg EA '82 to '85. DD 9/10. Insp. for two '08BP=\$13.1k total. Former Nault

Exterior Information		Bath Features		Depreciation	
Type	17 - STORE	Full Bath	0 Rtno	Phys Con	AV - Average
Sty Hght	1 - 1 STORY	Add Full	0 Rtno	Functional	22.4
(Liv) Units	0 / Tot 2	3/4 Bath	0 Rtno	Economic	
Found		Add 3/4	0 Rtno	Special	
Frame	3 - CONCRETE	1/2 Bath	0 Rtno	Override	
P. Wall	7 - BRICK	Add 1/2	0 Rtno		Total 22.4
Sec Wall	0	Other Fx	0 Rtno	General Information	
Roof Str	4 - FLAT	Other Features		Grade	C - AVERAGE
Roof Cvr	11 - MEMBRANE	Kitchens	0 Rtno	Year Btl	1920
Color		Add Kit	0 Rtno	Est Yr	1990
View		Fireplaces	0 Rtno	AR LUC	
Shape		WS Flues	0 Rtno	Juris	
Bid Name		Condo Information		Con Mod	
Interior Information		Location			
Avg Ht / Ft		Tot Units			
P. Int Wall	5 - MINIMUM	Floor			
Sec Int Wall		% Own			
Partition	T - TYPICAL	Name			
P. Floor	4 - CARPET	Calc Ladder			
Sec Floor	5 - LINO/VINYL 50%	Base Rate	84.00	Depr %	22.4
Bmt Floors		Size Adj	0.98452	Depr	111.736
Sub Floors		Con Adj	1.03721	Depr'd Total	387.065
Bmt Garage	0	Adj Pro	\$ 85.78	Juris Ft	1.0000
Electric	3 - TYPICAL	Grade Fl	1.00000	Spec. Features	\$ 1.100
Insulation	2 - TYPICAL	Other Feat	\$ 6.666	Final Total	\$ 388.200
Int Vs Ext		NBH Mod	1.0000	Assmnt Fl	1.0000
Heat Fuel	2 - GAS	NBC Int	1.0000	Assessed Val	\$ 388,200
Heat	1 - FORCED H/A	LUC Fl	1.0000	Total \$/SF	\$ 91.04
# Heat Sys	0	Ad Tot exch	498.821	Under \$/SF	85.78000
Heated %	100	AC %	100	Clid Vac %	
		Sol HW %		Com Wall %	
		Sprink %	100		



Code	Desc	A	Y/S	Qty	Size	Qual	Con	Year	Unit Prc	D/S	Depr %	LUC	FL	NBC	Fl	Juris	Fl	Appr Val	Assessed
CLR1	COOLER	D	S	1	60.00	A	AV	2009	20.00	T	9		1		1		1	1,100	1,100

Sub Areas		Code	Desc	Net Area	Gross A.	F. Area	Sz Adj A.	Rate AV	Undepr Val
FFL	FIRST FLR			4,248	4,248	4,248	4,248	85.78	364,222
AOF	OFFICE AVG			18	18	18	18	141.56	2,548
BMT	BASEMENT			2,114	2,114	0	0	21.44	45,324
CNP	CANOPY			656	656	0	0	24.43	16,026
FBM	FINISHED BMT			2,132	2,132	0	0	30.02	64,003
Building Totals				9,166	9,166	4,264	4,264		492,123
Parcel Totals				9,166	9,166	4,264	4,264		492,123

Res Breakdown				
Floor	No. Unit	Rooms	Bdrms	
U	0	0	0	
Bld Total				0 0 0
Prcl Total				0 0 0

Special Features / Yard Items

Code	Desc	A	Y/S	Qty	Size	Qual	Con	Year	Unit Prc	D/S	Depr %	LUC	FL	NBC	Fl	Juris	Fl	Appr Val	Assessed
CLR1	COOLER	D	S	1	60.00	A	AV	2009	20.00	T	9		1		1		1	1,100	1,100
Building Totals				Yard Item Appr		Special Feature Appr						1,100	1,100	1,100					
Parcel Totals				Yard Item Appr		Special Feature Appr						1,100	1,100	1,100					



Disclaimer: This information is believed to be correct but is subject to change and is not guaranteed

0081 00098
 Sheet Lot Unit# Bldg#

0081-00098 92-921/2 WEST PEARL ST
 Parcel ID Building Location

Nashua Acct 8118 Card: 1 of 1 Total Card Total Parcel
 ASSESSED 230,100 / 230,100

PROPERTY LOCATION
 92-921/2 WEST PEARL ST
 NASHUA, NH

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Val	Yard Items	Land Size	Land Val	Total Val
3220	161,000	0	2,533.00	69,100	230,100
Building Total	161,000	0	2,533.00	69,100	230,100
Parcel Total	161,000	0	2,533.00	69,100	230,100
Source	0 - Mid Adj Cost	Tot Val SF/Bld	91.64	Tot Val SF/Prcl	91.64

LEGAL DESCRIPTION
 Desc:
 Lot Size
 Total Land
 Land Unit Type

OWNERSHIP
 CROTEAU, RICHARD &
 CLAIRE CROTEAU %RB CROTEAU PHT
 507 E JENKINS CT
 HERNANDO, FL 34442-0000

PREVIOUS ASSESSMENTS

Tx Yr	Cat	Use	Bld Value	Yard Items	Land Size	Land Val	Total Appr	Assessed	Notes	Date
2019	FV	3220	161,000	0	2,533	69,100	230,100	230,100	Year End Roll	03/04/2020
2018	PATR	3220	161,000	0	2,533	69,100	230,100	230,100	Corrects for Assessor	01/09/2019
2017	FV	3220	201,000	0	2,533	40,900	241,900	241,900	Year End Roll	11/06/2017
2016	FV	3220	201,000	0	2,533	40,900	241,900	241,900	Year End Roll	11/16/2016
2015	FV	3220	201,000	0	2,533	40,900	241,900	241,900	Year End Roll	11/06/2015
2014	FV	3220	201,000	0	2,533	40,900	241,900	241,900	Roll	10/06/2015
2013	FV	3220	201,000	0	2,533	40,900	241,900	241,900	Year End	10/28/2013
2012	FV	3220	223,300	0	2,533	40,900	264,200	264,200	Year End Roll	11/09/2012

PREVIOUS OWNER
 COUTOUMAS, RICHARD G & MARY
 -0000

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Price	TSF	Verif.	NAL	Notes
COUTOUMAS, RICHARD G & MAR	5790-1730	W	02/21/1997	142,500	No			JT S.Q. STATES OWNER FINANCED FOR
	1455-397	P	01/30/1956	0	No			PW 1125-P

NARRATIVE DESCRIPTION
 This parcel contains 2533.00000 SF of land mainly classified as STORE/SHOP with a STORES/APT C building built about 1920, having primarily TEX 111 Exterior and 2,511 Square Feet, with 1 Residential Unit, and 2 Bdrms.

OTHER ASSESSMENTS

Code	Desc	Amnt	Comm Int Amnt

PROPERTY FACTORS

Item	Code	Item	Code	%
Util 1	C - ALL	Dis 1	NASH	100.0
Util 2		Dis 2		
Util 3		Dis 3		
Census		Zone 1	D1MU	
F. Haz		Zone 2		
Topo	1 - LEVEL	Zone 3		
Street	1 - PAVED			
Traffic				
Exempt				

LAND SECTION

LUC	LUC Desc	Ft	# Units	Depth	U. Type	L. Type	Ft	Base V.	Unit Prc	Adj Prd	NBC	Ft	Mod	Inf 1	%	Inf 2	%	Inf 3	%	Appr	AR LUC	%	Spec L.V.	Juris	L. Fl.	Assessed	Notes
3220	STORE/SHOP	1	2,533		SF	SITE	1		5.74	27.28	CBD	0.95								69,100		0	0	J	1	69,100	SITE
Total ACHA			0.06	Total SFSM			2,533.00	Parcel LUC		3220 - STORE/SHOP	P. NBC Desc		CENTRAL BUS	Tot		69,100	Tot		0	Tot		69,100					

Disclaimer: This information is believed to be correct but is subject to change and is not guaranteed

Bld: 3336 | Seq: 1 | Year: 2020 | Data As Of Date: 08/09/2020 | User: BrownL | DB: Assess50Nashua



Patriot
 PROPERTIES INC.

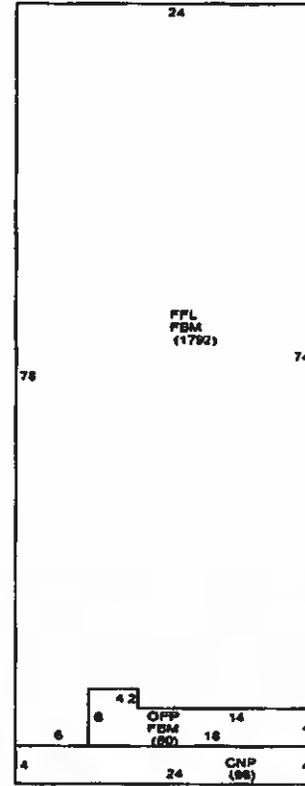
User Account
 GIS Coord 1
 1038128.252232
 GIS Coord 1
 94741.8
 Insp Date
 01/30/2009
 PRINT
 Date Time
 8/9/2020 5:16 pm
 LAST REV
 Date Time
 12/14/12 1:49 pm
 apro
 USER DEFINED
 PriorID1a
 Nashua PID
 81-88
 Plan #
 PriorID1b
 PriorID2b
 PriorID3b
 92-921/2
 Code Date
 Code Status
 Nashua Ward
 4
 Assessor Map

Comments

Parcel ID 0081-00104

Closed 158P=\$2,500 minimal fit-up cost for W&B's Barber Shop, now located in former hobby shop. Basement was and is finished. Chg Physical condition from Fair to Avg. DD 4/16. ADJ SF-CALC PER PA 8/15 ND

Exterior Information		Bath Features		Depreciation	
Type	17 - STORE	Full Bath	0	Rtng	
Story Hght	1 - 1 STORY	Add Full	0	Rtng	
(LH) Units	1	3/4 Bath	0	Rtng	
Found		Add 3/4	0	Rtng	
Frame	3 - CONCRETE	1/2 Bath	0	Rtng	
P. Wall	7 - BRICK	Add 1/2	0	Rtng	
Sec Wall		Other Fct	0	Rtng	
Roof Str	4 - FLAT			Total 32	
Roof Cvr	4 - TAR+GRAVEL	Other Features		General Information	
Color		Kitchens	0	Rtng	
View		Add Kit	0	Rtng	
Shape		Fireplaces	0	Rtng	
Bld Name		WS Flues	0	Rtng	
Interior Information		Condo Information		Grade	
Avg Ht / Ft		Location		C - AVERAGE	
P. Int Wall	1 - DRYWALL	Tot Units		Year Blt	1920
Sec Int Wall		Floor		EFYr	1977
Partition	T - TYPICAL	% Own		AIR LUC	
P. Floor	4 - CARPET	Name		Juris	
Sec Floor		Calc Ladder		Con Mod	



Code	Desc	Size Adj	Base Rate	Depr %	Depr
Bmt Floors		1.30804	84.00	32	95.722
Sub Floors		1.09180			203.408
Bmt Garage	0				
Electric	3 - TYPICAL				
Insulation	2 - TYPICAL				
Int Vs Ext					
Heat Fuel	1 - OIL				
Heat	1 - FORCED H/A				
# Heat Sys	0				
Headed's	100				

Sub Areas

Code	Desc	Net Area	Gross A.	F. Area	Sz Adj A.	Rate AV	Undepr Val
FFL	FIRST FLR	1,792	1,792	1,792	1,792	119.96	214,968
OFF	OPEN FRM PRC	80	80	0	0	31.86	2,550
CNP	CANOPY	96	96	0	0	31.32	3,007
FBM	FINISHED BMT	1,872	1,872	0	0	41.99	78,605
Building Totals		3,840	3,840	1,792	1,792		299,131
Parcel Totals		3,840	3,840	1,792	1,792		299,131

Res Breakdown

Floor	No. Unit	Rooms	Bdrms
U	1	0	0
Bld Total		1	0
Prd Total		1	0

Special Features / Yard Items

Code	Desc	A	Y/S	Qty	Size	Qual	Con	Year	Unit Prc	D/S	Depr %	LUC	FL	NBC	FL	Juris	FL	Appr Val	Assessed		
SPR1	SPRINKLERS-W	D	S	1	3664.00	A	AV	1972	3.40	T	50		1	1	1			8,900	8,900		
Building Totals																			8,900	8,900	8,900
Parcel Totals																			8,900	8,900	8,900

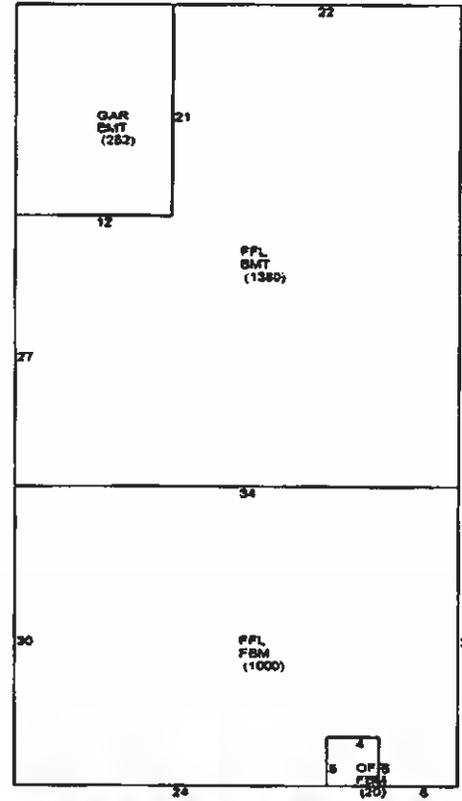


Comments

Parcel ID 0081-00095

.05 EcoObsol removed 800 GAGE FLORIST

Exterior Information		Bath Features		Depreciation	
Type	17 - STORE	Full Bath	0 Rng	Phys Con	FR - Fair 38.4
Story Hght	1 - 1 STORY	Add Full	0 Rng	Funcional	
(Liv) Units	1 Tot 1	3/4 Bath	0 Rng	Economic	
Found		Add 3/4	0 Rng	Special	
Frame	3 - CONCRETE	1/2 Bath	0 Rng	Override	
P. Wall	7 - BRICK	Add 1/2	0 Rng		Total 38.4
Sec Wall	21 - CONC BLOC 0	Other Fix	0 Rng		
Roof Str	4 - FLAT	Other Features		General Information	
Roof Cvr	4 - TAR-GRAVEL	Kitchens	0 Rng	Grade	C - AVERAGE
Color		Add Kit	0 Rng	Year Btl	1900
View		Finplaces	0 Rng	Est Yr	1974
Shape		WS Flues	0 Rng	ALLUC	
Bld Name				Con Mod	
Interior Information		Condo Information			
Avg Ht / Ft		Location			
P. Int Wall	1 - DRYWALL	Tot Units			
Sec Int Wall		Floor			
Partition	7 - TYPICAL	% Own			
P. Floor	4 - CARPET	Name			
Sec Floor	5 - LINOVINYL	Calc Ladder			
Bmt Floors		Base Rate	84.00	Depr %	38.4
Sub Floors		Size Adj	1.17017	Depr	133.587
Bmt Garage	0	Con Adj	1.09180	Depr'd Total	214.297
Electric	3 - TYPICAL	Adj Prc	\$ 107.32	Juris Fl	1.0000
Insulation	2 - TYPICAL	Grade Fl	1.00000	Spec Features	\$ 0
Int Vs Ext		Other Feat	\$ 0	Final Total	\$ 214,300
Heat Fuel	2 - GAS	NBH Mod	1.0000	Assmnt Fl	1.0000
Heat	3 - FORCED HW	NBC Int	1.0000	Assessed Val	\$ 214,300
# Heat Sys	0	LUC Fl	1.0000	Total \$/SF	\$ 90.04
Heated %	100	Adj Tot Price	347,884	Under \$/SF	107.32000
AC %		Sol HW %		Com Wall %	
		Ctrl Vac %		Sprink %	



Code	Desc	A	Y/S	Qty	Size	Qual	Con	Year	Unit Prc	D/S	Depr %	LUC	Ft	NBC	Ft	Juris	Ft	Appr Val	Assessed
Building Totals																			
Parcel Totals																			

Sub Areas

Code	Desc	Net Area	Gross A.	F. Area	Sz Adj A.	Rate AV	Undepr Val
FFL	FIRST FLR	2,380	2,380	2,380	2,390	107.32	255,422
GAR	GARAGE	252	252	0	0	37.56	9,465
OFF	OPEN FRM PRC	20	20	0	0	45.00	900
BMT	BASEMENT	1,632	1,632	0	0	26.83	43,787
FBM	FINISHED BMT	1,020	1,020	0	0	37.56	38,311
Building Totals		5,304	5,304	2,380	2,380		347,884
Parcel Totals		5,304	5,304	2,380	2,380		347,884

Res Breakdown

Floor	No. Unit	Rooms	Bdrms
U	1	0	0
Bld Total	1	0	0
Prcl Total	1	0	0

Special Features / Yard Items

Code	Desc	A	Y/S	Qty	Size	Qual	Con	Year	Unit Prc	D/S	Depr %	LUC	Ft	NBC	Ft	Juris	Ft	Appr Val	Assessed
Building Totals																			
Parcel Totals																			

Disclaimer: This information is believed to be correct but is subject to change and is not guaranteed

0081 0003
Sheet Lot Unit# Bldg#

0081-0003 78-84 WEST PEARL ST
Parcel ID Building Location

Nashua

Card: 1 of 1 Total Card Total Parcel
ASSESSED 2,058,800 / 2,058,800

Acct: 23634

PROPERTY LOCATION
78-84 WEST PEARL ST
NASHUA, NH

OWNERSHIP
NASHUA, CITY OF
229 MAIN ST
NASHUA, NH 03060-0000

Occ: Type

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Val	Yard Items	Land Size	Land Val	Total Val
3220	1,768,800	1,800	15,800.00	288,200	2,058,800
Building Total	1,768,800	1,800	15,800.00	288,200	2,058,800
Parcel Total	1,768,800	1,800	15,800.00	288,200	2,058,800
Source	0 - Mkt Adj Cost	Tot Val SF/Rd	54.90	Tot Val SF/Prd	54.90

LEGAL DESCRIPTION
Desc:

Lot Size
Total Land
Land Unit Type

PREVIOUS ASSESSMENTS

Tx Yr	Cat	Use	Bld Value	Yard Items	Land Size	Land Val	Total Appr	Assessed/Notes	Date
2019	FV	3220	1,768,800	1,800	15,800	288,200	2,058,800	2,058,800 Year End Roll	03/04/2020
2018	PATR	3220	1,768,800	1,800	15,800	288,200	2,058,800	2,058,800 Corrects for Assessor	01/09/2019
2017	FV	3220	1,701,300	900	15,423	253,400	1,955,600	1,955,600 Year End Roll	11/06/2017
2016	FV	3220	1,701,300	900	15,423	253,400	1,955,600	1,955,600 Year End Roll	11/16/2016
2015	FV	3220	1,701,300	900	15,423	253,400	1,955,600	1,955,600	11/06/2015
2014	FV	3220	1,701,300	900	15,423	253,400	1,955,600	1,955,600 Roll	10/06/2015
2013	FV	3220	1,701,300	900	15,423	253,400	1,955,600	1,955,600 Year End	10/28/2013
2012	FV	3220	1,969,400	900	15,423	253,400	2,223,700	2,223,700 Year End Roll	11/09/2012

PREVIOUS OWNER
201 MAIN STREET REALTY INC
201 MAIN ST
NASHUA, NH 03060-2938

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Price	TSF	Verif.	NAL Notes
201 MAIN STREET REALTY INC	9056-0685	W	03/15/2018	0	No		2
MILLER REALTY CORP	6561-437	FO	07/01/1994	415,000	No		FR/BANK OF NH
	1328-172		01/01/1900	0	No		

NARRATIVE DESCRIPTION
This parcel contains 15800.00000 SF of land mainly classified as STORE/SHOP with a STORES/APT C building built about 1898, having primarily BRICK Exterior and 37,502 Square Feet, with 10 Residential Units, 29 Rooms, and 10 Bd rms.

OTHER ASSESSMENTS

Code	Desc	Armt	Comm Int Armt

PROPERTY FACTORS

Item	Code	Item	Code	%
Util 1	C - ALL	Dis 1	NASH	100.0
Util 2		Dis 2		
Util 3		Dis 3		
Census		Zone 1	D1MU	
F. Haz		Zone 2		
Topo 1	- LEVEL	Zone 3		
Street 1	- PAVED			
Traffic				
Exemod	CI - CITY OWNED			

BUILDING PERMITS

Date	Number	Desc	Amount	Closed	Status	Notes	Last Visit
11/27/2019	201903544	INVESTIGATIO		12/24/2019	C		
09/24/2018	201802819	INVESTIGATIO		06/20/2019	C		
02/17/2015	201500297	ELEC/MECH -		03/03/2015	C	BP REVISED IN C	
07/23/2014	201401496	ELECTRICAL C		08/07/2014	C		
06/11/2010	201000940	MECHANICAL		07/09/2010	C		
03/23/2010	201000359	ALTERATION -	6,000	04/05/2010	C		
01/21/2010	201000029	MECHANICAL		12/09/2010	C		
08/12/2008	200800804	MECHANICAL		09/10/2008	C		
05/20/2005	200500825	ALTERATION -	5,000	03/15/2006	C		
04/26/2002	200200335	Alteration	35,451	12/30/2002	C		
06/05/1998	199800926	Mech/Plumb/E	0	03/18/1999	C		

ACTIVITIES

Date	Result	By
12/11/2019	AERIAL V N	Lynn Cameron
03/23/2018	Meas+List	Greg Turgles
12/01/2002	Interior I	Robert Lakerna
08/20/1998	Interior I	RN
03/25/1997	Meas+List	RN
09/26/1996	Meas+List	RN
11/20/1990	Meas+List	JT

LAND SECTION

LUC	LUC Desc	Ft.	# Units	Depth	U. Type	L. Type	Fl.	Base V. Unit Prc	Adj Prd	NBC	Fl.	Mod.	Inf 1	%	Inf 2	%	Inf 3	%	Appr	Alt LUC	%	Spec L.V.	Juris	L. Ft.	Assessed/Notes
3220	STORE/SHOP	1	15,800		SF	SITE	1	5.74	18.24	CBD	0.95			50				288,200		0		0	H	1	288,200 SITE
Total AC/HA			0.36	Total SF/SM			15,800.00	Parcel LUQ		3220 - STORE/SHOP	P. NBC Desc		CENTRAL BUS	Tot		288,200	Tot		0	Tot		288,200			

Disclaimer: This information is believed to be correct but is subject to change and is not guaranteed

Bld: 10622 | Seq: 1 | Year: 2020 | Data As Of Date: 08/09/2020 | User: Brown.L | DB: Assess50Nashua



Patriot
PROPERTIES INC.

User Account

GIS Coord 1
1038348.618232

GIS Coord 1
94802.4
Insp Date
03/23/2018

PRINT
Date Time
8/9/2020 5:13 pm

LAST REV
Date Time
12/14/12 2:15 pm
apro

USER DEFINED
PriorID1a
Nashua PID
81.3
Plan #

PriorID1b
PriorID2b
PriorID3b
78-84
Code Date
Code Status
Nashua Ward
4
Assessor Map

Comments

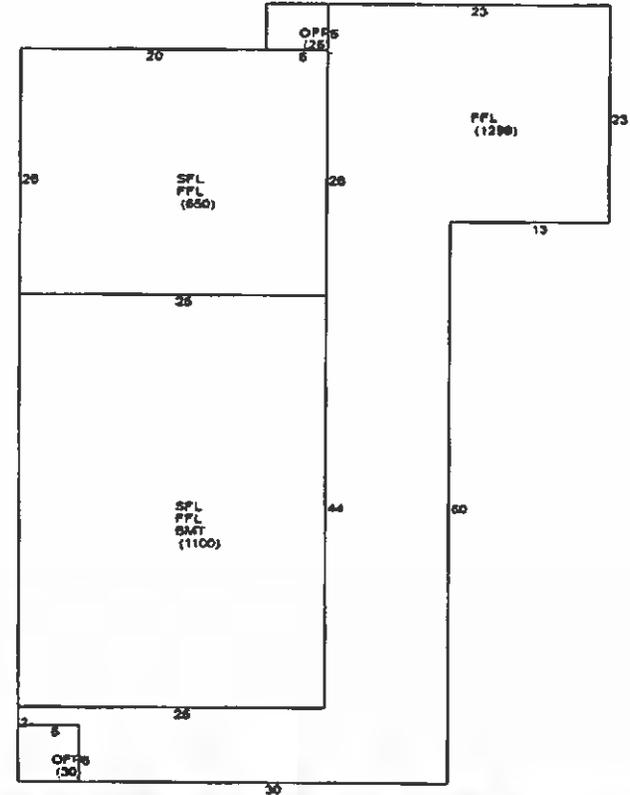
Parcel ID 0081-00081

Ext. Inspection for 168P=\$45k for conversion of greenhouse to enclosed restaurant seating. Work is completed. Chg EA '80 to '86.
 -00 3/17 ECO-INCA/MT ADJ ATTACHED SIGNS MIXED USE BT/FR 1-1BDR IA RENOVATED 1-2BR IA RENOVATED WHELL
 CHAIR RAMP=4X28 REST=ALL BAS+UBM SIMON HOUSE FAM RESTA

Exterior Information		Bath Features		Depreciation	
Type	80 - STORES/APT C	Full Bath	0 Ring	Phys Con	AV - Average
Sty Hght	2 - 2 STORIES	Add Full	0 Ring	Functional	
(Lv) Units	2 Tot 3	3/4 Bath	0 Ring	Economic	
Found		Add 3/4	0 Ring	Special	
Frame	1 - WOOD	1/2 Bath	0 Ring	Override	
P. Wall	4 - VINYL	Add 1/2	0 Ring		
Sec Wall	8 - BRICK VENT 10	Other Fix	0 Ring		Total 32
Roof Str	1 - GABLE	Other Features		General Information	
Roof Cvr	1 - ASPHALT	Kitchens	0 Ring	Grade	C+ - AVG. (+)
Color		Add Kit	0 Ring	Year Bkt	1931 Est Yr 1986
View		Fireplaces	0 Ring	All LUC	
Shape		WS Flues	0 Ring	Juris	
Blk Name				Con Mod	
Interior Information		Condo Information			
Avg Ht / Ft		Location			
P. Int Wall	1 - DRYWALL	Tot Units			
Sec Int Wall		Floor			
Partition	T - TYPICAL	% Own			
P. Floor	4 - CARPET	Name			

Calc Ladder		Sub Areas	
Sec Floor		Base Rate	94.00
Bmt Floors		Size Adj	0.75005
Sub Floors		Con Adj	1.00300
Bmt Garage	0	Adj Prc	\$ 70.72
Electric	3 - TYPICAL	Grade Fl	1.10000
Insulation	2 - TYPICAL	Other Feet	\$ 4.048
Int Vs Ext		NBH Mod	1.00000
Heat Fuel	2 - GAS	NBC Inf	1.00000
Heat	1 - FORCED H/A	LUC Fl	1.00000
# Heat Sys	0	Adj Tot	400.952
Heated s	100	Undepr \$/SF	77.79200
AC s	100		
Sol RW s			
Com Wall s			
Sprink s			

Special Features / Yard Items		Building Totals		Parcel Totals	
Code	Desc	A	Y/S	Qty	Size
CLR1	COOLER	D	S	1	48.00
SPR1	SPRINKLERS-W	D	S	1	5929.00
Building Totals		Yard Item Appr		Special Feature Appr	
Parcel Totals		Yard Item Appr		Special Feature Appr	



Code	Desc	Net Area	Gross A.	F. Area	Sz Adj A.	Rate AV	Undepr Val
FFL	FIRST FLR	3,049	3,049	3,049	3,049	70.72	215,625
SFL	SECOND FLR	1,750	1,750	1,750	1,750	70.72	123,760
BMT	BASEMENT	1,100	1,100	0	0	17.68	19,448
OFF	OPEN FRM PRC	55	55	0	0	36.15	1,988
Building Totals		5,954	5,954	4,799	4,799		360,822
Parcel Totals		5,954	5,954	4,799	4,799		360,822

Floor	No. Unit	Rooms	Bdrms
M	1	3	1
M	1	4	2
Bid Total		7	3
Prod Total		7	3

Image



Disclaimer: This information is believed to be correct but is subject to change and is not guaranteed

Appendix G

District Properties, Acreages & Established Values

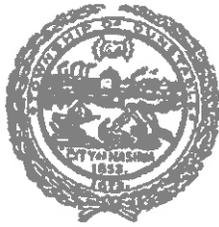
	Parcel ID	Location	Acres	Total Value	Notes
1	79-54	School Street	0.68	\$107,400	Public Parking Lot
2	79-35	West Pearl	0.11	\$519,600	
3	81-16	West Pearl	0.16	\$889,400	Office Building
4	81-81	Elm Street	0.09	\$397,400	
5	81-98	West Pearl	0.06	\$230,100	
6	81-104	West Pearl	0.04	\$263,100	
7	81-95	West Pearl	0.06	\$285,100	
8	81-3	West Pearl	0.36	\$2,058,800	City Owned
9	79-129	West Pearl	0.07	\$276,100	

Total Acreage: 1.63 Acres

Total Assessed Value: \$5,027,000

Appendix H

Adopting Provisions of RSA 162-K



CITY OF NASHUA

In the Year of Our Lord, One Thousand Nine Hundred and Ninety-Eight

AN ORDINANCE

ADOPTING THE PROVISIONS OF RSA 162-K
AUTHORIZING THE CITY OF NASHUA TO CREATE
MUNICIPAL ECONOMIC DEVELOPMENT AND REVITALIZATION DISTRICTS

The City of Nashua ordains that Chapter 2, Article X "Taxation and Finance", Div. 1 "Generally", is hereby amended by adding a new section 2-741 as follows:

"Sec. 2-741. **Authorizing the establishment of tax increment financing districts for municipal economic development and revitalization.** The City hereby adopts the provisions of RSA 162-K, Municipal Development and Revitalization Districts, which authorize the City to establish development districts, development programs, and to finance improvements through tax increment financing plans, all consistent with the provisions of that statute as amended from time to time."

AN ORDINANCE

0-98-74

Adopting the provisions of RSA 162-K
authorizing the City of Nashua to create
Municipal Economic Development and
Revitalization Districts

Endorsed by:

[Handwritten Signature]

IN THE BOARD OF ALDERMEN

1st Reading..... OCTOBER 13, 1998

2nd Reading..... NOVEMBER 24, 1998

Referred to committee on OCTOBER 13, 1998

PLANNING & ECONOMIC DEVELOPMENT COMM.

CITY PLANNING BOARD

Passed..... NOVEMBER 24, 1998

Defeated.....

Other Action.....

Attest: *[Handwritten Signature]*

[Handwritten Signature]
City Clerk

NOVEMBER 24, 1998 President

Approved..... (Date)

[Handwritten Signature]
Mayor