

# Examining and Containing Rental Housing Development Cost Drivers

**Vermont Housing Finance Agency**

Special Achievement: SA

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## Vermont Housing Finance Agency

Cost study

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### Examining and Containing Rental Housing Development Cost Drivers

As in many other states, Vermont faces the twin challenges of limited sources of financing for affordable housing and increasing costs of development. In response, the Vermont Housing Finance Agency (VHFA) led an initiative to examine factors contributing to the cost of building and rehabilitating affordable rental housing. The project sought to achieve three key outcomes: a) comparing the recent Vermont experience of affordable rental housing developments with market rate housing, as well as regional and national affordable housing, (b) assessing the impact of public policy priorities on development costs, and (c) recommending achievable changes to contain or reduce total costs while ensuring quality.

#### Project initiation

In April 2019, VHFA released an RFP on behalf of a group of the primary affordable housing funders in the state, seeking a contractor to analyze data on multi-family housing developments in Vermont. After reviewing proposals, VHFA contracted with consultants at [LSA](#) to conduct the study and prepare the report. VHFA coordinated the work and the review by the study's multi-agency committee. As the largest source of funding for affordable rental housing development in the state, VHFA also took the lead role in providing the project level data for the consultants to use in their analysis.

The committee overseeing the study agreed early on that what comes *after* the study is as important as the study itself. With resolve to actively implement recommendations resulting from the study, VHFA and its partner agencies committed themselves to action.

#### Study design

LSA developed a hybrid approach for the study. The qualitative portion of the study applied descriptive statistics and multivariate regression analysis to a sample of affordable housing projects, relating project characteristics with the development costs of projects. The qualitative portion of the study involved surveys and focus groups with Vermont's development community. The study compared these results with data from market rate projects as well as costs of development in New England and nationally.

#### Major study challenges

One of the primary challenges of the project was the relatively low number of affordable multifamily housing projects in Vermont over the study period of 2009 to 2018. After selecting projects for which VHFA was able to obtain complete cost information, the sample size for the study was only 107 projects. This made it difficult for the consultant to show statistically significant relationships between some project characteristics and total development costs (TDCs). The small number of projects placed into service in any given year also resulted in significant variability in per-unit TDCs. For example, while the median per-unit TDC increased by 37% between 2017 and 2018, it declined by 22% between 2016 and 2017. Costs also varied widely within each year. Over the study period, there was a range of about \$100,000 between the 25th percentile and 75th percentile in per-unit TDC. This variability made it difficult to determine an overall trend over the past decade.

In addition, despite the desire to include data on market rate rental developments, VHFA found it challenging to find participants among these developers. This may have been due to a similarly small number of market rate developments in the state, which despite efforts to anonymize results could have

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caused developers to be concerned about being identified. Fortunately, the study had an excellent rate of participation among Vermont's developers of subsidized rental housing.

Finally, the study underlined the perpetual conflict between the need to achieve policy priorities and cost limits. VHFA's [Qualified Allocation Plan](#) (QAP) emphasizes many key priorities for awarding funding, including development in transit-rich downtown areas, permanent supportive housing for homeless households and serving very low income tenants. Even if a study were to reveal that one of these project characteristics were a major cost driver, this would not necessarily cause VHFA to de-prioritize it.

### Results

The study found that Vermont's affordable housing had a much higher median cost than the United States overall, although costs were slightly lower than the New England median. The cost of affordable housing development in Vermont is increasing faster than the U.S. overall. The report pointed to several key factors driving Vermont's high costs, including high costs of materials, complex local permitting processes, and a lack of economies of scale due to the small size of Vermont housing developments.

These factors are largely outside of developers control. However, the report did find some project factors that might be more governable:

- Although all of Vermont's developments are small compared to most other states, larger projects had significant cost savings, with each additional unit over 25 lowering the cost of other units by \$442.
- Rehabilitation projects were less expensive than new construction, although historic rehab projects also tended to have high costs.
- Projects with permanent supportive housing had higher costs, likely due to larger staff spaces incorporated to manage service delivery.
- Projects built in Qualified Census Tracts (QCT) were less expensive than projects in other areas.
- Projects that received federal or state energy-efficiency incentives had an average per-unit TDC that is \$40,936 higher than projects that did not.
- The number of funding sources was a significant predictor of per-unit TDCs. With each additional funding source, the average per-unit TDC increases by \$2,812. This result could suggest that there are added costs associated with the application or reporting process, or it could indicate that more complex projects needed to seek out additional funding sources.

### Recommendations

The final report included a list of strategies to help contain costs, prioritizing high impact and ease of implementation:

- Establish upfront cost guidelines and a formal cost review process as part of the pre-application phase, providing more explicit requirements, incentives, or guidelines related to overall costs in their LIHTC allocation process. Alternatively, provide more incentives to control costs.
- Promote "next generation" solutions to factors that contribute to higher costs. These include creating innovation programs, reviewing design practices and building techniques, and promoting collaboration within the nonprofit sector and with the community.
- More explicitly track costs and benefits of the State's top-tier policy priorities.

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- Formalize collaboration and communication during the application/award process. Since most applicants apply for funding from multiple agencies for funding, enhancing coordination in the application process could facilitate more effective review of cost-effectiveness.

### Adoption of new strategies

VHFA and its partners developed an implementation work plan to review the report and apply its recommendation, which will unfold in stages over multiple years. In the short-term, the Agency is pursuing several projects:

#### Formalization of Cost Review

The primary call to action by the report was to increase the formalization of the framework by which project cost is reviewed. As an interim step to ensure the affordable housing development community understood cost would be reviewed, language was added to the state's Consolidated Plan as well as the draft Qualified Allocation plan that acknowledges cost would be a formally reviewed and considered during the funding resource allocation rounds. While a hard cost cap is not being placed on projects, the language indicates the agency and other major funders of affordable housing will utilize a cost analysis tool to make predictive cost comparisons based on the characteristics of a project.

#### Cost-comparison tool

Based on the findings of the study about the factors that are significantly related to total development costs, VHFA is currently developing a digital tool for VHFA's development underwriting team to use to compare costs of proposed projects to prior projects. The tool will also use the results of the multivariate regression analysis to compare a project application's expected TDC with the range forecast based on project characteristics. In the short term, this tool will help underwriters assess the reasonableness of a project's proposed costs and flag issues for further inquiry. Over a longer term, the tool will help VHFA understand which requirements or incentives it can add to its QAP to control costs. At the request of partners, VHFA plans to share the cost tool with other statewide agencies in Vermont who also underwrite proposed subsidized multifamily rental development applications.

#### Design Standards

The agency has engaged an architectural firm and is working with a group of affordable housing funders, developers, and designers to create design best practices for affordable housing developments. The goal of the project is to combine the agency's policies around accessibility, universal design, green building standards, and best practices in cost containment into one set of streamlined design standards.

#### Funder Collaborative Pipeline Reviews

Effective early in 2020, Vermont's major funders of affordable housing began holding regular funding pipeline meetings. Vermont has a fragmented funding system with LIHTC, HOME, Section 8, and other state funding sources spread among multiple entities. As called for in the cost study, VHFA will bring the entities together no less than quarterly, but also in alignment with major funding rounds to discuss projects and funding collaborations. This has already yielded a more streamlined and predictable process for applicants seeking multiple layers of funding.

## REQUEST FOR PROPOSALS

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### Analysis of Vermont Affordable Rental Housing Development Cost Factors

#### Introduction

The intent of this Request for Proposals is to assist the primary funders of affordable housing<sup>1</sup> in Vermont (Selection Committee) in examining the factors affecting the total development costs of creating and preserving affordable rental housing. The analysis will include a) comparing the recent Vermont development cost experience of affordable rental housing<sup>2</sup> developments with market rate housing developments, as well as regional and national affordable housing; (b) assessing the impact of affordable housing public policy priorities on development costs, and (c) recommending achievable changes to contain or reduce total development costs while ensuring housing quality. The analysis will also draw on the results of recent national reports and studies to compare Vermont development costs with regional trends.

At the same time that capital and sources of financing for affordable housing are limited, the cost of developing housing has increased. Policymakers and housing developers need information describing the factors contributing to the cost of building and rehabilitating affordable rental housing so that they can adopt a range of actions to produce affordable housing as efficiently as possible while balancing public policy outcomes.

Vermont's funding agencies are examining key market factors influencing development costs in the general real estate sector as well as those policy and market factors specific to affordable rental housing with special attention on forces affecting Vermont. They have assembled a library of reports dating back to 1993 which describe the factors affecting the cost of developing affordable rental housing in Vermont and offer recommendations for mitigating their effects.

The Vermont Housing Finance Agency (VHFA) will make available data it has collected since 2010 describing multi-family housing developments including total development costs reported by line item and by geography, date, type of project (i.e. general occupancy and senior housing), developer, type of construction, and state policy objectives achieved by each project.

<sup>1</sup> This includes Vermont Housing Finance Agency, Vermont Housing and Conservation Board, and Vermont Department of Housing and Community Development. The funders will likely enlist an advisory group of subject matter experts to help it review this work and provide feedback.

<sup>2</sup> "Affordable rental housing" means multifamily housing affordable at 30% of the monthly income for households at incomes less than 80% of the HUD area median, with emphasis on households at 60% of AMI.

The funders are seeking a consultant to author a report which summarizes analysis of primary data, data from other sources, and industry literature to describe the production of Vermont affordable housing, total development costs, cost components, the relationships between state housing policy objectives and development costs, and how the Vermont affordable housing experience compares with market rate housing. The analysis will also compare the costs of affordable rental housing in Vermont with other Northern New England states. Industry literature to be reviewed will include recent analyses conducted by the General Accounting Office and Abt Associates. With this analysis as a base, the report will summarize and comment on outcomes of past studies as well as provide new recommendations.

## Goals

- Using primary data collected by VHFA, describe the Vermont affordable rental housing inventory developed since 2010 and identify variables related to development costs.
- Compare the costs of developing affordable rental housing in Vermont with costs of market rate housing.
- Compare the cost of developing affordable rental housing with similar housing developments in Northern New England.
- To the extent possible, identify actions that have previously been taken to limit the costs of developing, rehabilitating and preserving affordable rental housing and describe the results.
- Determine the consequences of State housing policies on the cost of affordable rental housing development and the value that those policies bring to residents and the community.
- Provide achievable recommendations to reduce Vermont affordable rental housing development costs while ensuring quality. This may include changes in underwriting standards, availability of debt and equity products, tax credit allocation and public funding award procedures and requirements, cost control incentives, and construction materials and techniques while achieving required policy outcomes.

## Responses

Responses to this RFP are due in accordance with the schedule provided in this RFP. Please submit three hard copies and a digital copy to the following who can also respond to questions about this RFP.

Seth Leonard  
Vermont Housing Finance Agency  
164 St. Paul Street  
Burlington, VT 05401  
(802) 652-3403  
[sleonard@vhfa.org](mailto:sleonard@vhfa.org)

## Scope of Services Requested

### 1. Analyze affordable rental housing development data.

The Vermont Housing Finance Agency maintains the Interagency Affordable Housing Database. VHFA's Housing and Development Software system stores data for all affordable multifamily residential properties since 2010. Project-specific details include (but are not limited to) number of units, residential and commercial square footage, location, owner, developer, property manager, funding sources, development cost & expense details, annual financial information, tax credit allocations, state priority characteristics addressed, building, unit, and tenant details. VHFA can provide a sample database upon request, prior to your response to this RFP.

The consultant will be asked to use the database to briefly summarize the characteristics of Vermont's affordable rental housing production since 2010. This summary will include, but not be limited to, number of units, unit type (*e.g.*, general occupancy, senior or special needs), project type (*e.g.*, new construction, preservation, rehabilitation, adaptive re-use), county, placed in service date, sponsor, funding sources, total development costs, and satisfaction of state allocation and policy priorities.

VHFA will make data from the database available to the consultant. Please email the contact for this RFP if you would a sample of the database that will be available. In addition, VHFA staff will be available for a conference call with all those interested in submitting proposals to review the data and describe the form and formats in which the data can be made available. The conference call will be held in accordance with the schedule section of this RFP.

### 2. Analyze market rate rental housing development data.

The consultant is responsible for identifying, compiling and analyzing market rate rental housing data that may be used to compare and contrast the affordable housing development cost data described in section one of the scope of services. VHFA and the other Vermont funding agencies have contact information for developers of market rate rental housing for development of a Vermont sample. The consultant will be responsible for compiling a reasonable sample of market rate data.

### 3. Compare and contrast the Vermont affordable housing development cost data with market rate housing development data and northern New England affordable developments.

Using the VHFA data above, the consultant will compare and contrast Vermont affordable rental housing development costs with (a) development cost data from Northern New England and the nation and (b) market rate multifamily housing developed in Vermont. It is the consultant's responsibility to identify and access the data sources necessary to complete this task.

**3. Convene a meeting of multifamily developers, general contractors, and architects to identify opportunities for construction cost savings.**

The Selection Committee will identify developers, general contractors, and builders with recent experience in multifamily housing. The consultant will elicit comments and recommendations on factors in the development process in Vermont that affect development costs and what it would take to reduce those costs. Consultant will propose strategies for obtaining input including phone interviews, convening a roundtable, and an online survey. Areas to solicit feedback include public policy impacts, bidding and contracting methods, scope of drawing sets, build approaches, and materials and mechanical system choices.

**4. Document, summarize, and draw conclusions from previous recommendations to limit the costs of developing, rehabilitating and preserving affordable rental housing.**

The Selection Committee has compiled a library of several previous studies examining factors which contribute to the cost of producing and preserving Vermont affordable rental housing beginning in 1993. Major independent reports were presented in 1995, 2000, 2001, and 2008. The Selection Committee will provide these and other reports addressing the Vermont cost environment to the consultant as both background on the cost issues and with the expectation that the consultant will summarize and comment on past recommendations, actions taken, and their outcomes.

There is also significant literature from recent studies of the development cost experience in other states and nationally. They include:

- *Variation in Development Costs for LIHTC Projects*, National Council of State Housing Agencies, 2018;
- *Improved Data and Oversight Would Strengthen Cost Assessment and Fraud Risk Management*, US Government Accountability Office, 2018;
- *Giving Due Credit: Balancing Priorities in State Low Income Housing Tax Credit Allocation Policies*, Enterprise, 2016;
- *Affordable Housing Cost Study: Analysis of the Factors that Influence the Cost of Building Multi-Family Affordable Housing in California*, four California State agencies, 2014;
- *Bending the Cost Curve on Affordable Rental Housing: Understanding the Drivers of Cost*, Urban Land Institute, Enterprise and Terwilliger Center for Housing (2013); and
- *Development Costs Trends in Multifamily Housing*, Minnesota Housing Finance Agency, 2013.

Using these and other reports identified by the consultant, the consultant is expected to provide a summary of the state and national cost drivers, a description of how those



cost factors may apply to the Vermont experience, and recommendations of actions that Vermont could take to mitigate development cost increases.

**5. Describe the consequences of State housing policies on the cost of affordable rental housing development and operations.**

The State agencies which allocate federal and state funds for affordable housing development prioritize projects that achieve goals that are not necessarily directly related to number of housing units produced. The consultant is asked to describe how those policy priorities affect development costs.

## **Proposal Format**

Proposals must meet the conditions listed in this RFP and clearly provide the following information.

- 1. Proposal Cover Letter:** The applicant shall provide a brief description of the RFP, the expected date that the applicant could begin work, a statement acknowledging the conditions stated in the RFP. The letter shall be signed by the applicant or its authorized representative.
- 2. Applicant's Qualification Statement:** A description of the experience, qualifications, responsibilities and per diem rate for all contributing personnel. In particular, please describe your affordable housing work in small, primarily rural states. Please also provide sample reports providing public policy recommendations based on data analysis.
- 3. Proposed Activities:** A description of the activities and work products consistent with the scope of services described above. For each work element, explain the proposed methodology, work product to be delivered, and role, if any, of the Selection Committee members.
- 4. Fee:** A not-to-exceed total, all-inclusive maximum proposed fee to perform the scope of services broken out for each element. Include direct and indirect costs, usual and customary expenses, time estimates for contributing personnel, as well as the proposed manner of payment and terms.
- 5. References:** Three references from past clients or associates including a description of the relationship, email address, and telephone number.

## **Evaluation Criteria**

Proposals will be evaluated based on the following criteria:

- Relevant qualifications and experience of the personnel conducting the activities, including familiarity with Vermont’s affordable housing delivery system.
- Demonstrated understanding of the work to be performed as well as previous experience with similar projects.
- Quality and clarity of proposal in addressing the scope of work and goals.
- Proposed approach to the project.
- Sample work products.
- Ability to meet timeframe.
- Proposed cost.

Questions about the scope of work and other aspects of the RFP may be directed to Seth Leonard, Managing Director of Community Development, VHFA, [sleonard@vhfa.org](mailto:sleonard@vhfa.org).

The Selection Committee reserves the right to reject any or all proposals submitted, in whole or in part, if it is in our best interests. We assume no obligation, no responsibility and no liability for any costs incurred by the responding firms prior to the execution of a contract for services.

### **Selection Process**

The highest evaluated proposers may be invited to discuss their proposal and qualifications prior to a final decision which will be made in accordance with the schedule section of this request.

### **Schedule**

The anticipated schedule for the RFP and resulting program is as follows:

- RFP issued: Monday, April 8<sup>th</sup>, 2019
- Database informational meeting: Friday April 26<sup>th</sup>, 2019 11:00am Eastern Time
- Responses to RFP due: Friday, May 10<sup>th</sup>, 2019 by 4:00 pm, Eastern Time
- Hiring decision made: Friday, May 24<sup>th</sup>, 2019
- Contract signing: Wednesday, June 7<sup>th</sup>, 2019
- All deliverables and final report due: Friday, October 18<sup>th</sup>, 2019

### **Enclosed Attachments**

Attachment A: Terms and Conditions of Proposal Submittal

Attachment B: Standard Contract Provisions

## Attachment A: Terms and Condition of Proposal Submittal

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Any proposal received by VHFA must be valid and binding for a period of thirty (30) days beyond the submission deadline. VHFA and the selected vendor will enter into a contract, describing the terms and conditions of the services to be performed, including vendor compensation. Every contract will be subject to the Standard Provisions set forth in Appendix B – Standard Contract Provisions.

By submitting a proposal, the Respondent agrees to the following:

- A) All materials submitted become the property of VHFA and shall be public information unless a statutory exception exists which would thereby determine that such information cannot be released to the public. If you have information in your proposal that you believe is an exemption to the Vermont Public Records Laws, you must identify each and every occurrence of the information in the proposal on a separate page titled “Exemptions to the Public Records Law”. Each Respondent agrees to reimburse VHFA for, and to indemnify, defend, and hold harmless VHFA, its officers, fiduciaries, employees and agents from and against: (1) any and all claims, damages, losses, liabilities, suits, judgments, fines, penalties, costs, and expenses, including without limitation, attorneys’ fees, expenses, and court costs of any nature whatsoever (collectively, the “Claims”) arising from or relating to VHFA’s non-disclosure of any such designated portions of the response or other materials submitted by the Respondent related to this RFP; and (2) any and all Claims arising from or relating to VHFA’s public disclosure of any such designated portions of a response or other materials submitted by the Respondent related to this RFP if disclosure is deemed required by law or if disclosure is ordered by a court of competent jurisdiction.
- B) Respondents will respond to all requirements in this RFP and comply with any terms and conditions outlined in the RFP. Failure to do so may result in disqualification of the proposal.
- C) All costs incurred in preparation of a proposal shall be borne by the Respondent. Proposal preparation costs are not recoverable under the Agreement for Services. VHFA shall not contribute in any way to recovering the cost of proposal preparation.
- D) If during the evaluation process it becomes necessary to make further distinctions between certain Respondents, VHFA may request certain Respondents make oral presentations of proposals to the Selection Committee or VHFA staff.
- E) Proposals received after the deadline will not be reviewed. Respondents are advised that there will be no opportunity to correct mistakes or deficiencies in the proposals after the submission deadline. Proposals that are missing required information may not be evaluated. It is the sole responsibility of the Respondent to ensure its proposal is complete, accurate, responsive to the requirements, and received on time. Proposals

not complying with the requirements of the RFP may not be further evaluated or considered.

- F) VHFA reserves the right to use alternative methods to evaluate housing development costs.
- G) VHFA reserves the right to reject any and all proposals at any time and to accept or reject any item or combination of items in any proposal. VHFA reserves the right to cancel, withdraw, modify or reissue this RFP at any time for any reason.
- H) Written approval from VHFA must be obtained for any media releases regarding an award of the contract by VHFA.
- G) By submitting a proposal, Respondent agrees to waive any claim(s) it has or may have against VHFA or any other member of the Selection Committee and/or any of the current or former directors, officers, board members, employees, or agents thereof arising out of or in connection with (1) the administration, evaluation, or recommendation of any proposal (2) waiver of any requirement under this RFP, (3) acceptance or rejection of any proposal, and (4) award of the contract.

## Attachment B: Standard Contract Provisions

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### ADDITIONAL STATE CONTRACT PROVISIONS

Attachment to \_\_\_\_\_ Agreement between  
\_\_\_\_\_  
\_\_\_\_\_ (“Provider”) and  
Vermont Housing Finance Agency (“Customer”)

1. ENTIRE AGREEMENT. The \_\_\_\_\_ Agreement (the “Agreement”), as supplemented hereby, represents the entire agreement between the parties on the subject matter. In the event of any conflict between the terms hereof and any other terms of the Agreement, the terms hereof shall be controlling. All prior agreements, representations, statements, negotiations, and understandings shall have no effect.
2. APPLICABLE LAW. This contract will be governed by the laws of the State of Vermont.
3. NO EMPLOYEE BENEFITS. PROVIDER understands that CUSTOMER will not provide any individual retirement benefits, group life insurance, group health and dental insurance, vacation and sick leave, workers compensation or other benefits or services available to CUSTOMER’s employees, nor will CUSTOMER withhold any state or federal taxes. PROVIDER understands that all tax returns required by the Internal Revenue Code and the State of Vermont, including, but not limited to income, withholding, sales and use, and rooms and meals, must be filed by PROVIDER, and information as to contract income will be provided by CUSTOMER to the Internal Revenue Service and the Vermont Department of Taxes.
4. INDEPENDENCE, LIABILITY. PROVIDER will act in an independent capacity and not as officers or employees of CUSTOMER. PROVIDER shall indemnify, defend and hold harmless CUSTOMER and its officers and employees from liability and any claims, suits, judgments, and damages arising as a result of PROVIDER’s acts and/or omissions in the performance of this contract.
5. FAIR EMPLOYMENT PRACTICES AND AMERICANS WITH DISABILITIES. PROVIDER agrees to comply with the requirements of Title 21, VSA Chapter 5, Subchapter 6, relating to fair employment practices, to the extent applicable. PROVIDER shall also ensure, to the full extent required by the Americans with Disabilities Act of 1990, that qualified individuals with disabilities receive equitable access to the services, programs, and activities provided by PROVIDER under this contract. PROVIDER further agrees to include this provision in all subcontracts.
6. PROPRIETARY INFORMATION. In connection with the services to be performed under the Agreement (the “Work”), it is anticipated that CUSTOMER will deliver to PROVIDER certain business data, technical information, processes, specifications and other information of a secret, confidential and proprietary

nature with respect to CUSTOMER (collectively, the "Proprietary Information"). The parties hereto desire to ensure that the confidentiality of any Proprietary Information is maintained in accordance with the terms hereof.

- a. All Proprietary Information provided to PROVIDER by or on behalf of CUSTOMER is the property of CUSTOMER, and will be treated by PROVIDER as such. PROVIDER agrees to make all necessary and appropriate efforts to safeguard the Proprietary Information, and all material prepared by CUSTOMER and its representatives which reflects such Proprietary Information, from disclosure. In furtherance of such efforts, PROVIDER agrees that it will not without prior written authorization of CUSTOMER distribute any of the Proprietary Information to anyone other than its authorized personnel and representatives who must know such Proprietary Information for purposes of completing the Work. PROVIDER agrees not to use the Proprietary Information for any purpose other than in connection with the Work.
- b. PROVIDER shall require its officers, representatives, agents, advisors, consultants and employees to abide by the terms of this Agreement to the same extent that PROVIDER is required to do so. PROVIDER shall be responsible for any breach of this Agreement by any of the foregoing persons.
- c. PROVIDER shall, upon request by CUSTOMER, use its best efforts to return to CUSTOMER or destroy all tangible manifestations, including computer tapes, discs, flash drives and copies of such manifestations, of Proprietary Information delivered to PROVIDER.
- d. The obligations of PROVIDER under this Agreement shall not apply to the following information which shall not be deemed Proprietary Information:
  - Information that is disclosed in a publication available to the public, or is otherwise in the public domain at the time of disclosure; or
  - Information that is generally disclosed to third parties by CUSTOMER without restriction on such third parties; or
  - Information that is approved for release by written authorization of CUSTOMER; or
  - Information that is independently developed by PROVIDER without use of any Proprietary Information.
- e. This Agreement shall not be construed to grant to PROVIDER patents, licenses or similar rights to Proprietary Information disclosed to PROVIDER by CUSTOMER.
- f. PROVIDER agrees that in the event that it fails to fulfill its obligations set forth in this Agreement, CUSTOMER may suffer irreparable injury. In the event of any breach of this Agreement by PROVIDER, CUSTOMER shall be entitled, in addition to any other remedies

or damages, to injunctive and other equitable relief to prevent or restrain any breach of this Agreement.

7. INSURANCE. Before commencing work on this contract the Provider must provide certificates of insurance to show that the following minimum coverages are in effect. It is the responsibility of the Provider to maintain current certificates of insurance on file with CUSTOMER through the term of the contract.

- a. WORKERS COMPENSATION: With respect to all operations performed, the Provider shall carry workers compensation insurance in accordance with the laws of the State of Vermont.
  
- b. GENERAL LIABILITY AND PROPERTY DAMAGE: With respect to all operations performed under the contract, the Provider shall carry general liability insurance having all major divisions of coverage including, but not limited to:
  - Premises - Operations
  
  - Independent Providers' Protective
  
  - Products and Completed Operations
  
  - Personal Injury Liability
  
  - Contractual Liability

The policy shall be on an occurrence form and limits shall not be less than:

- \$1,000,000 Per Occurrence
- \$1,000,000 General Aggregate
- \$1,000,000 Products/completed products aggregate
- \$ 50,000 Fire Legal Liability

- c. AUTOMOTIVE LIABILITY: The Provider shall carry automotive liability insurance covering all motor vehicles, including owned, non-owned, and hired, used in connection with the contract. Limits of coverage shall not be less than: \$1,000,000 combined single limit.

No warranty is made that the coverages and limits listed herein are adequate to cover and protect the interests of the Provider for the Provider's operations. These are solely minimums that have been set to protect the interests of CUSTOMER.

8. TAXES DUE TO THE STATE.

a. PROVIDER understands and acknowledges responsibility, if applicable, for compliance with State tax laws, including income tax withholding for employees performing services within the State, payment of tax on property used within the State, corporate and/or personal income tax on income earned within the State.

b. PROVIDER certifies under the pains and penalties of perjury that, as of the date the contract is signed, PROVIDER is in good standing with respect to, or in full compliance with, a plan to pay, any and all taxes due the State of Vermont.

9. SUBPROVIDERS. PROVIDER shall not assign or subcontract the performance of this agreement or any portion thereof to any other Provider without the prior written approval of CUSTOMER. PROVIDER also agrees to include in all subcontract agreements a tax certification in form substantially identical to paragraph 6 above.

10. NO GIFTS OR GRATUITIES. Without first obtaining the written approval of the Executive Director of CUSTOMER, PROVIDER will not give title or possession of anything of substantial value (including property, currency, travel and education programs) to any officer or employee of CUSTOMER during the term of this contract.



# Analysis of Vermont Affordable Rental Housing Development Cost Factors



December 2019

Prepared by:

LSA  
Neighborhood Fundamentals, LLC

Prepared for:

Vermont Housing Finance Agency  
Vermont Housing & Conservation Board  
Vermont Department of Housing and Community Development

## ACKNOWLEDGMENTS

This report is intended and prepared for Selection Committee and primary funders of the report: Vermont Housing Finance Agency, Vermont Department of Housing and Community Development, Vermont Housing & Conservation Board. The report was also made possible through financial support from the Vermont Association of Planning and Development Agencies (VAPDA).

This report would not be possible without the countless contributions of the Vermont development and construction community. We received data and qualitative information from a broad spectrum of participants from affordable housing developers, to construction practitioners, to planning officials.

Cover photo credits (clockwise from top left): Vermont Housing Finance Agency, Champlain Housing Trust, Vermont Housing & Conservation Board, Housing Vermont

# ANALYSIS OF VERMONT AFFORDABLE RENTAL HOUSING DEVELOPMENT COST FACTORS

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## EXECUTIVE SUMMARY

In 2019, the Vermont Housing Finance Agency (VHFA), Vermont Housing and Conservation Board (VHCB) and the Department of Housing and Community Development (DHCD) of the Agency of Commerce and Community Development initiated a study designed to help ensure that State resources for affordable housing are being used efficiently to meet the housing needs of low-income Vermonters. The primary objectives of this affordable rental housing cost study are to examine factors affecting the cost of affordable rental housing and to provide achievable recommendations to contain or reduce total development costs without sacrificing housing quality or other critical policy objectives. This report builds on prior studies of housing costs in the State, as well as recent national research on cost effectiveness in the affordable housing delivery system.

The private market generally can meet demand for rental housing for higher-income households. However, it is difficult—and often impossible—to deliver housing affordable to Vermonters with lower incomes without public subsidy. While affordable housing development costs in Vermont are in line with costs observed more broadly in New England, public resources for affordable housing remain limited and are insufficient to meet the full extent of housing needs. At the same time, labor, material, and other development costs are on the rise. Therefore, it is critically important to identify the key drivers of development costs and to develop strategies to ensure available resources are used effectively.

### **Vermont’s Rental Housing Delivery System**

In Vermont, there are several State agencies involved in financing affordable housing and providing housing assistance. The VHFA, VHCB, and DHCD are the primary State agencies involved in funding the development and preservation of affordable rental housing in the State. These agencies work together with Federal housing agencies, including the U.S. Department of Housing and Urban Development (HUD) and U.S. Department of Agriculture (USDA), as well as with the Vermont State Housing Authority (VSHA), local Public Housing Authorities, and departments of the State’s Agency of Human Services (AHS), to leverage the federal dollars available to Vermont and to help ensure State and Federal resources are targeted effectively.

Each State funding agency in Vermont has its own processes and priorities. However, there is a significant amount of coordination among the agencies, and the agencies embrace the shared goals of expanding permanently affordable rental housing, supporting historic preservation and downtown redevelopment, and promoting energy efficiency in the State. These priorities are formally renewed every five years when the State conducts a Housing Needs Assessment and sets policy priorities in its Consolidated Plan (ConPlan). Many of these priorities are set in State statute. Strategies to contain costs in the affordable rental housing delivery system, therefore, must be balanced against these Statewide policy priorities.

## Affordable Rental Housing Development Costs

There were 105 affordable rental housing projects with more than 3,400 housing units developed or rehabilitated with support from the State housing delivery system between 2009 and 2018. The median per-unit cost of these affordable rental housing developments was \$227,719 (in 2016 dollars),<sup>1</sup> but development costs fluctuate widely from year to year based on the characteristics of particular projects funded. Nearly two-thirds of the costs of delivering affordable rental housing in Vermont is associated with hard costs, primarily labor and materials.

Aside from land, material, and labor costs, the most important factors influencing development costs are project size, project type, population served, design factors that contribute to meeting other State policy priorities, and the number of financing sources. Key findings from this quantitative analysis of affordable rental housing development costs include the following:

- Larger projects have significantly lower per-unit costs, reflecting the fact that larger projects can spread fixed costs (e.g., land costs) over a larger number of units. However, in many parts of the State, larger projects are not feasible either because of a lack of sufficient infrastructure, insufficient demand, and/or local density limits.
- The State funds both new construction and rehabilitation projects. Over the past decade, new construction has been significantly more expensive than rehab projects, including historic rehab projects, which tend to be more complex. On average, it costs approximately \$77,000 more per housing unit to build new than to undertake moderate rehab of an existing building. New construction averages about \$18,000 more per unit than a more intensive historic preservation rehab project. However, historic preservation projects can take advantage of Federal historic tax credits which offset this cost differential, on average.
- Age-restricted projects in the State tend to be lower cost. On average, per-unit development costs are \$64,000 lower for age-restricted projects than for general occupancy projects.
- Making use of Historic Tax Credits appears to be associated with higher development costs. However, the total tax credit equity received by projects is commensurate with the higher per-unit costs identified. Therefore, the historic preservation projects in Vermont's affordable housing inventory appear to "pay for themselves" via the Federal subsidy.
- Projects that receive funding for energy efficiency or green building interventions also have higher per-unit costs than other projects. Details about the specific energy efficiency or green building interventions in individual projects were not included in the Interagency Affordable Housing Database, so it is not possible to quantify the costs of particular investments. It is clear that energy efficiency grants awarded as part of the process of funding affordable rental housing projects do not cover the total upfront costs associated

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<sup>1</sup> Unless otherwise specified, cost data is presented in 2016 dollars to allow for consistent comparisons with other research on development costs.

with the interventions. However, savings in operating costs over the long term (which could not be measured in this study) could offset some or all of the upfront costs.

- Permanently affordable housing with deeper income targeting and supportive services tends to be more expensive than general occupancy housing to produce and preserve. These developments may include, but are not limited to, permanent supportive housing (PSH). Development costs could be higher for these units if additional common space or other facilities, such as case manager offices, were built as part of the project. This additional space is seen as essential for providing supportive services critical to residents with special needs.
- Projects with more financing sources tend to have slightly higher per-unit development costs. In some cases, more complex and costly projects may drive the need to secure funding from a broader range of sources, rather than additional sources driving substantially higher costs. However, there are marginal direct and indirect costs associated with each additional funding source.

It is clear that certain project characteristics are associated with higher development costs in the State. In some cases, however, the higher costs may be justified either because they are offset by specialized Federal funding dedicated to its use or because the projects serve an important State policy goal.

### **Comparing Affordable Development Costs to Market-Rate Development Costs**

Affordable rental housing is produced in Vermont within a broader market environment. As part of this analysis, trends in affordable housing development costs in Vermont are compared with market-rate trends. Overall, the primary drivers of costs of delivering housing in Vermont are related to the rising costs of labor and materials, which are largely outside of the control of State-level stakeholders.

There is some evidence that development costs overall in Vermont, and affordable housing development costs in particular, have been rising faster than overall national development costs. According to national and city-level construction index data, between 2011 and 2018, national construction costs increased by about 16% while overall construction costs in Burlington and Rutland increased by 23% or more. Over the same period, Vermont's affordable rental development costs increased by about 36%. Therefore, there is some evidence that affordable housing development costs have risen more quickly than overall construction costs in the State.

Focus groups and interviews with affordable and market-rate developers supplemented the quantitative analysis, leading to the identification of several key cost drivers that could at least partially explain the different trends in Vermont affordable rental housing development costs:

- **Labor and material costs are high and increasing.** Hard costs, including labor and materials, account for about two-thirds of development costs. Labor cost increases have been a

particular challenge in Vermont, driven by a shortage of construction workers and building trades companies. Developers of affordable rental housing projects are competing with private-sector builders—including residential and commercial—for a very limited pool of workers, which drives up costs.

- **Vermont’s affordable rental housing developments lack economies of scale.** Developments with larger unit counts are generally more cost-effective on a per unit basis. However, there are limits to developing larger projects in Vermont. Some of these limits are structural, including limited demand in rural areas and limited subsidies from Federal programs. Others fall at least partially within the discretion of State and local stakeholders, including density and height limits in local land use regulations and zoning codes, and policy-related decisions to direct subsidy resources to needs throughout the State, including places where larger projects are not feasible.
- **Locally-required fees and conditions add direct costs.** Local jurisdictions place a number of fees and conditions on development, particularly if the developer is seeking additional entitlement or other regulatory waivers. These local requirements can place a financial burden on funding-constrained affordable housing developments and may create the need to seek out additional sources of subsidy, increasing the costs of delivering the project.
- **Developments must receive approval at multiple and often uncoordinated levels.** Difficulty in obtaining local land use approvals and the necessary community engagement process required is cited as a challenge to cost-effective development in the State. Affordable housing projects can face higher levels of community opposition than market-rate developments. In addition, local codes and regulations can be at odds with, or not integrated with, State codes and regulations, which also can create additional costs.
- **Act 250 approvals can exacerbate other approval-related challenges.** During focus groups and interviews, there was disagreement about whether Act 250 added directly to costs. However, it was clear that the Act 250 approval process gave opponents one additional leverage point to stall or stop development.
- **Infrastructure requirements can add costs, though they may be necessary in rural areas.** Development costs may be increased when developers are required to provide site-serving infrastructure. These additional costs may be even more significant in rural areas, where the infrastructure may be a necessary investment to serve the property or community.
- **A substantial amount of resources are tied up in project reserves.** It is standard practice for investors and funding agencies to require upfront capitalized reserves at the project level to protect against adverse conditions that could jeopardize the sound operations and financial viability of an affordable housing development. The State specifies prudent mandatory reserve levels, and some evidence suggests that underwriting criteria have become stricter in the last decade due to broader economic factors and financial sector practices outside of



the State’s control. While project-by-project reserves are necessary to ensure long-term stewardship, there is an “opportunity cost” to extensive reserves being held at the portfolio level.

- **Vermont’s policy priorities result in funding projects with higher cost profiles.** Vermont’s affordable housing developers build high-quality structures to meet the need of durability over time, sometimes exceeding market-rate standards. This high building quality contributes to meeting ambitious State policy priorities, such as excellence in energy performance, revitalization of downtown historic properties, and the provision of supportive services for affordable housing residents. These are important State priorities, but these project characteristics are associated with higher upfront development costs.

The above quantitative and qualitative analysis allows for a robust analysis of the current cost profile of affordable housing development in Vermont. However, the relatively small number of projects funded each year makes it difficult to confidently explain the rate of increase relative to the broader market, which may be in large part due to year-to-year variation in the types of projects funded by the State.

### **Cost Efficiency Recommendations for the State of Vermont**

It is clear that the State of Vermont is approaching public funding in a thoughtful and comprehensive manner. The State’s goals are clearly defined and, for the most part, consistently communicated to those seeking public funding for the development and preservation of affordable rental housing.

There are steps the State agencies can take to improve cost effectiveness. This report provides a set of recommended actions that can be undertaken by the State housing agencies to address cost increases in the affordable rental housing delivery system, while continuing to fund high-quality projects that serve lower-income Vermonters throughout the State. These recommendations generally focus on elements that are within the reach of the State housing agencies. The recommendations are also designed to reflect and preserve the benefits associated with the structure of the State’s housing funding agencies, as well as to leverage the partnerships that have been developed over many years.

### **Cost-Efficiency Recommendations**

There is no one, single factor that dictates the cost profile of Vermont-based development. Furthermore, many of the elements leading to increased costs in the State, especially the market-based costs of labor and materials, are largely outside of the control of State-level stakeholders. Within the purview of the State housing agencies, decisions related to what gets built matter as much—if not more—than the relative efficiency of the affordable housing delivery system.

Projects meeting the State’s core policy priorities—aggressive energy efficiency standards, downtown historic rehabilitation, and housing with supportive services—are associated with higher

baseline costs. However, these are important goals for a broad range of stakeholders throughout the State. Maintaining these priorities can limit the number of paths to meaningfully easing the trajectory of costs in the State. To improve cost efficiency while sustaining commitment to these key public policy goals, the State housing agencies and their partners should more intentionally focus on incentivizing incremental process improvements, encouraging experimentation and innovation, and unlocking additional public resources.

There are 16 core recommended actions included as part of this report, which indicates that there is no one strategy to pursue or shortfall to correct to make improvements on costs. Instead, this report provides a series of steps that the State agencies and other partners can take to incrementally improve cost effectiveness in the affordable rental housing delivery system in Vermont. Progress towards achieving these recommendations is a process that will take sustained commitment over the course of multiple years.

Recommendations are organized based on an analysis of the potential magnitude of the impact and estimated ease of implementation. This framework can be used by the State funding agencies to prioritize action moving forward based on their assessment of needs and capacity.

**Figure 1. Core Recommendations for Improving Cost Effectiveness in Vermont’s Affordable Rental Housing Delivery System**

<p><b>Higher Impact, Easier Implementation</b></p> <ul style="list-style-type: none"> <li>• Establish upfront cost guidelines and a formal cost review process as part of the pre-application phase</li> <li>• Promote "next generation" solutions to factors that contribute to higher costs</li> <li>• More explicitly track costs and benefits of the State's top-tier policy priorities</li> <li>• Formalize collaboration and communication during the application/award process</li> <li>• Approve design alternatives in high-cost scenarios</li> </ul>	<p><b>Higher Impact, Harder Implementation</b></p> <ul style="list-style-type: none"> <li>• Create process for streamlined local approval of affordable housing developments</li> <li>• Create a State-level board and/or appeals process to adjudicate/resolve local land use and entitlement challenges</li> <li>• Identify opportunities to increase utilization of 4% Low Income Housing Tax Credits</li> <li>• Establish a reserve insurance program</li> </ul>
<p><b>Less Impact, Easier Implementation</b></p> <ul style="list-style-type: none"> <li>• Provide multi-year pre-approval for contractors/subs competing for affordable housing projects</li> <li>• Study lifecycle and resyndication/recapitalization costs</li> <li>• Create alternate fee structures</li> </ul>	<p><b>Less Impact, Harder Implementation</b></p> <ul style="list-style-type: none"> <li>• Include cost-effectiveness as a criteria in the QAP and other funding prioritization processes</li> <li>• Consider impact on housing costs when adopting other State regulations</li> <li>• Pursue more cost-effective interpretations of historic tax-credit rules</li> <li>• Combine loan closing documents</li> </ul>

## INTRODUCTION

There is a considerable need for affordable rental housing in Vermont. According to the 2017 American Community Survey, half of all renter households in the State are housing cost burdened, and a quarter are severely cost burdened. Sources of funding for affordable housing are limited. At the same time, the cost of developing housing has been on the rise. Therefore, it is critically important to understand the factors that contribute to the cost of building affordable housing in Vermont and to adopt strategies that can help facilitate efficient production and preservation, without sacrificing quality or other critical State policy objectives.

The primary objective of this study is to provide recommendations to the State's housing agencies for ways to deliver affordable rental housing in Vermont cost effectively. To support that overall goal, this report:

- Provides an in-depth analysis of the factors associated with the costs of producing and rehabilitating affordable rental housing in Vermont,
- Compares affordable and market-rate cost trends over time,
- Reviews best practices in cost containment strategies in states throughout the country, and
- Evaluates potential recommendations in light of the State's multifaceted policy goals.

### Funding Affordable Rental Housing

While the private market can do a good job in meeting demand for rental housing for higher-income households in most markets, it is more difficult to deliver housing affordable to Vermonters with lower incomes. High construction costs, high land prices, local and State regulations, along with the rents lower-income renters can sustainably afford, all contribute to the challenge of making projects with lower rents "pencil out." As a result, it is usually necessary for some type of subsidy to fill the gap between the cost of developing rental housing and the income stream associated with rental housing that is affordable to lower-income households.

Public subsidies for the development and preservation of affordable housing are available at the Federal, state and local levels. In Vermont, there are several State agencies involved in financing affordable housing and providing housing assistance. The Vermont Housing Finance Agency (VHFA), Vermont Housing and Conservation Board (VHCB) and the Department of Housing and Community Development (DHCD) of the Agency of Commerce and Community Development are the primary State agencies involved in funding the development and preservation of affordable rental housing in the State. These agencies work together with federal housing agencies including HUD and USDA Rural Development, as well as with the Vermont State Housing Authority (VSHA), local Public Housing Authorities, and departments of the State's Agency of Human Services, to leverage the federal dollars available to Vermont and help ensure State and federal resources are targeted effectively.

Statewide policy and funding decisions are informed by data on unmet housing needs in the State, which are updated every five years through a Housing Needs Assessment. The most recent

assessment was conducted in 2014 and informed the state's five-year Consolidated Plan (ConPlan) for the 2015 to 2019 period,<sup>2</sup> as well as other state policy and funding decisions. The state is currently in the process of conducting an updated Housing Needs Assessment.

Each State agency brings to the funding process a slightly different focus. VHFA is primarily a lender, providing financing in the form of tax credits and bond financing to support priorities in its Qualified Allocation Plan. VHFA tends to have more direct contact with private housing developers than do the other agencies.

VHCB focuses equally on housing and conservation and is the entity through which State-level funding for the development of affordable housing is provided. VHCB allocates both Federal HOME and National Housing Trust Fund funding to eligible projects. VHCB is more directly accountable to the State Legislature than either VHFA or DHCD and is given responsibility by statute to work with a network of nonprofits, building and maintaining their capacity to serve communities throughout the State.

The DHCD is charged with pursuing the Governor's community development priorities, in part through the administration of Federal Community Development Block Grant (CDBG) funding, which can be used for, among other priorities, the creation of affordable housing. Unlike the other funding organizations, the DHCD works directly with municipal grantees who often pass on grant funds to developers.

Though the emphases may differ, the three agencies are aligned around overarching policy priorities of not only expanding affordable housing options in the State, but also committing to permanent affordability, historic preservation, and energy efficiency. These core priorities are outlined in the State's ConPlan, VHFA's Qualified Allocation Plan for Low Income Housing Tax Credits, and the VHCB statute. Coordination among the State agencies is important for ensuring efficient use of public resources. At the same time, the different responsibilities and oversight result in slightly different perspectives among the agencies that can help produce better outcomes for the State.

In 2018, combined State and Federal funding and private equity for affordable housing development administered by VHFA, VHCB, and DHCD totaled approximately \$71.5 million. Tax credit equity of \$36.7 million, leveraged by approximately \$4.5 million in Federal and State Housing Tax Credits, provided just over half of this amount, and State Housing Revenue Bond funds of \$17 million provided one fourth of the total.<sup>3</sup>

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<sup>2</sup> The latest Statewide Vermont Housing Needs Assessment and County-specific reports can be found at: <https://accd.vermont.gov/housing/plans-data-rules/needs-assessment>.

<sup>3</sup> 2018 Vermont Housing Budget and Investment Report. Submitted to the Vermont General Assembly. Table III, p. 13. These totals include funding for affordable rental housing development and rehabilitation, along with smaller amounts of funding for mobile home replacements and downpayment assistance.

## Prior Research

This study on development costs in Vermont was informed by past research conducted by members of the research team and other national and state-specific studies related to development costs. This report also reviewed past research on affordable housing costs conducted in the State of Vermont. A full list of resources reviewed as part of this research can be found in the Appendix.

### Common Cost Drivers

In both national and state-specific studies, there has been general consensus on key drivers of the costs of delivering affordable rental housing. Importantly, many cost drivers are not specific to *affordable* housing development, but rather are related to the cost of developing housing more generally—labor, land and materials costs; local land use and zoning regulations; impact fees and infrastructure requirements; and costs associated with addressing community opposition. However, some of these factors, such as community opposition, may be a bigger challenge for affordable development. Furthermore, affordable developers may be less able than market-rate developers to absorb the incremental costs of these factors. In addition, a lack of economies of scale was another frequently-cited barrier to cost-effective development of rental housing, whether resulting from zoning limits or, in the case of affordable development, insufficient public subsidy to facilitate larger developments.

Prior research has identified cost drivers that are specific to the affordable housing delivery system. Even as public subsidies provide essential resources, they may also add to costs in the form of regulatory compliance costs, program-specific design and construction requirements, and requirements for achieving other policy goals, such as green building. While these cost drivers are explicit parts of these programs, prior research has also demonstrated that there can be other costs that result from system inefficiencies or as unintended consequences of the typical affordable housing finance structure. Developments often have “layered financing” with multiple funding sources that each generally bring a separate award process, timeline, regulations, and fees. These elements each bring associated costs.

Other industry-specific fees can also add to the cost of financing and developing affordable rental housing. For example, upfront capitalized developer fees are a significant component of affordable housing costs that many market-rate developments do not include. However, this fee is necessary to fund the organization’s cost of putting together the transaction and executing the development process in the absence of the ability to earn profit from operations or through asset appreciation.

### National Best Practices for Improving Cost Effectiveness

Prior research has documented best practices for cost-effective delivery of affordable housing. In 2014, the Urban Land Institute’s Terwilliger Center for Housing and Enterprise Community Partners released *Bending the Cost Curve: Solutions to Expand the Supply of Affordable Rentals*. This study identified several broad categories of recommendations for improving cost effectiveness while maintaining housing quality and resident opportunity:

- *Promote cost effectiveness through coordination and simplification*, with particular emphasis on coordinating funding resources to minimize the impact of layered financing.
- *Remove barriers to reducing construction costs and delays*, including reforming policies related to parking, unit sizes, and amenities. The report also emphasized the importance of flexibility in allowing developers to assemble a development team that can focus on high-quality and cost-effective design early in the process.
- *Facilitate a more efficient deal assembly and development timeline*, focusing on reducing barriers in the local entitlement and approval process, facilitating efficient public engagement, and aligning the award processes for public subsidies to support an expeditious development timeline.
- *Improve and align incentives*, which can include upfront investments that can reduce operational expenses, such as energy efficiency improvements, and costs over the useful life of the property (“lifecycle underwriting”). Funding and regulatory entities can also remove or reform “perverse incentives,” such as expenses that are calculated as a percentage of total development costs.
- *Improve the flexibility of existing sources of financing and create new financial products to better meet needs*, which can include providing capital at the entity level (rather than for each individual development), facilitating investment in the acquisition of existing properties with fewer rehabilitation needs, and adopting programs that reduce the amount of upfront, capitalized operating reserves.
- *Support the development and dissemination of information and best practices* through activities such as “innovation competitions” and information sharing forums. This category also included recommendations for the measurement and evaluation of costs as part of the funding award process.

In 2016, a follow up report titled *Giving Due Credit: Balancing Priorities in State Low Income Housing Tax Credit Allocation Policies* offered a series of recommendations focused on qualified allocation plans (QAPs), which govern housing tax credits, but are applicable to funding award processes of all types. These recommendations included the following:

- Agencies should consider the cumulative impact of QAP provisions on costs and quality.
- Point-based incentives and weighting should be structured so that no single provision is effectively mandatory.
- Cost and subsidy limits should reflect differences in development type and location.
- Cost, design, and construction standards should account for and encourage long-term savings.

- Funding sources and regulatory compliance should be coordinated and streamlined.
- Agencies should encourage innovation through the use of pilot initiatives.
- Progress toward agency goals should be measured and the results disseminated.

### **Vermont-Specific Cost Research**

Housing agencies in Vermont have studied the cost of developing housing several times over the past few decades.<sup>4</sup> The research team reviewed these studies and associated notes. Among the most notable findings, Santucci (2008) found that new construction in the State was more costly than rehabilitation, though substantial rehabilitation of historic structures was more expensive than new construction at the time. Construction in the State of Vermont was found to be less expensive than elsewhere in New England, but costs in New England were higher than in other regions of the country.

Prior studies of cost drivers in Vermont identified the limited availability of construction labor as a cost driver years before labor shortages began garnering significant attention. Other cost drivers cited in past Vermont research included:

- An inability to build at scale,
- Infrastructure requirements (particularly in rural areas),
- An insufficient number of experienced general contractors,
- Neighborhood opposition,
- Smart growth policies and energy efficiency standards,
- Providing services to Vermont's lowest income and most vulnerable citizens,
- The cost of investing for perpetual affordability,
- The State's focus on the nonprofit development sector, and
- Public participation process/community engagement challenges.

Recommendations highlighted by these prior State studies included:

- Shifting the burden of ad hoc costs (e.g., wetlands mitigation, farmland preservation, storm water, State impact fees, archaeology, accessibility, reasonable accommodation) from individual projects to more collective resources,
- Facilitating bulk purchasing, and
- Providing funding incentives for training in the building trades.

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<sup>4</sup> Urban Renovation Consultants, Inc. "A Comparison of Costs in Vermont Multifamily Development to U.S., Northeast states & Vermont Case Studies: A Selected Review." February 12, 2008.  
Kissam, Ariane, Polly Nichol, and Gus Seeling. "VHCB Work on Cost; Staff Memo to Board," December 4, 2012.



These national and Vermont-specific findings are useful for guiding the current study. Many of the best practices and recommendations identified in the past have been implemented by the funding agencies in Vermont. However, the recommendations in this report reflect an analysis of more recent economic trends, a significantly larger and more complete dataset, a more comprehensive evaluation of cost factors, and an in-depth assessment of current State policy priorities.

## Data and Methodology

This research builds on prior research by examining a wider range of cost data on a set of more recent affordable housing projects, and by explicitly comparing the costs of developing affordable rental housing with the costs of development in the broader real estate market.

This analysis uses descriptive analysis as well as multivariate regression analysis to examine the factors associated with the costs of developing affordable rental housing in Vermont. Data on affordable rental projects was obtained from the State's Interagency Affordable Housing Database, which includes information on all projects receiving funding from the State's primary housing agencies.

The research team also analyzed development cost data from prior national and state-specific studies, as well as trend data on multifamily construction costs from RSMMeans.<sup>5</sup> This information was used to supplement the fairly limited data made available by market-rate developers as part of the research process.

The goals of the quantitative analyses are to isolate the costs associated with delivering affordable rental housing in Vermont, as well as to measure the costs of some of the State's key policy priorities, including permanent affordability, energy efficiency, and historic preservation.

The quantitative analyses were supplemented with extensive outreach and engagement with a range of stakeholders involved in all aspects of the affordable rental housing delivery system in Vermont. Focus groups were conducted with the following groups:

- For-profit developers of market rate and affordable housing developments,
- Non-profit developers,
- Housing Vermont,
- Banks and other lending institutions,
- Architects and general contractors,
- Local and regional planners, and
- State housing agencies.

In addition, the research team held webinars with affordable housing developers and conducted one-on-one interviews with five for-profit developers. These focus groups and interviews provided

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<sup>5</sup> RSMMeans is a long-standing construction cost data source from Gordian.

additional context on cost drivers and guided discussions around potential cost efficiency strategies for the State.

## Overview of Cost Drivers

In analyzing development costs, it is important to recognize that different cost elements have different causes and impacts, and those factors shape potential policy responses. This research evaluates costs across a number of dimensions, including traditional delineations, such as hard costs, soft costs, and land or acquisition costs. However, there are other ways to think about development costs. To add further context and to address the challenge of balancing resource efficiency with maintaining quality standards, the research team considers costs with one or more of the following characteristics:

- **Baseline costs:** costs experienced by all developers, whether affordable or market-rate (e.g., materials, labor, construction financing).
- **Industry-specific:** costs specifically associated with using affordable housing capital (e.g., syndication costs) or complying with regulatory requirements for affordable housing programs.
- **Investments:** increased capital spending intended to improve long-term building performance (e.g., increased durability, reduced operating costs) or achieve other policy goals (e.g., resident services, environmental sustainability).
- **Inefficiencies:** costs resulting from policies, practices or requirements that do not add a distinct benefit to the development or its residents, or to achieve another policy goal.

These categories are not mutually exclusive, nor are these categories used as an organizing framework for the report. Instead, these will be referenced to provide additional context and nuance to the broader analysis about costs.

Finally, this research also will address how portfolio-level costs are influenced by the types of projects funded (e.g., preservation versus new construction, single building development versus scattered-site, infill versus greenfield), which are outside of the influence of individual cost line items.

## OVERVIEW OF THE AFFORDABLE RENTAL HOUSING DELIVERY SYSTEM IN VERMONT

In Vermont, there are several State agencies involved in financing affordable housing and providing housing assistance. The Vermont Housing Finance Agency (VHFA), Vermont Housing and Conservation Board (VHCB) and the Department of Housing and Community Development (DHCD) of the Agency of Commerce and Community Development (ACCD) are the primary State agencies involved in funding the development and preservation of affordable rental housing. In addition to these State agencies, the State Agency of Human Services provides assistance to special needs populations and the Vermont State Housing Authority (VSHA), as well as eight local public housing authorities, administer the Federal Housing Choice Voucher program.

There is a significant amount of coordination among the State housing agencies. The DHCD Commissioner sits on the board of VHFA as the designee for the Secretary of ACCD. The Executive Directors of VHFA and VHCB sit on each other's boards. In addition, the Executive Director of VHFA is currently an appointed member of the Vermont Community Development Board. There is also extensive informal coordination and collaboration among agency staff.

There is no one-size-fits all structure that is best suited for allocating housing capital across the diversity of U.S. states and geographies. Vermont is relatively unique in the number of agencies involved in the housing funding process. In many states, the various funding roles are held within two agencies—a state housing department, which typically manages Federal pass-through funding and state-appropriated resources, and a state housing finance agency that provides Low Income Housing Tax Credit (LIHTC) equity, debt resources and, occasionally, additional sources of gap financing.

Vermont has won awards for its unique approach of merging the State's affordable housing and land conservation efforts into one dual-mission organization, VHCB, which administers the State's primary source of funding for these efforts. By serving these two missions equally, VHCB seeks to balance the State's investments in these areas in accordance with Vermont's land use goals.

Assessments of the State's housing financing structure have indicated that it has brought more Federal resources to Vermont for both housing and conservation. Evaluations have found that the State's use of CDBG funds for housing, economic development, public facilities, and public services, makes it appropriate for the program to be located within the DHCD.

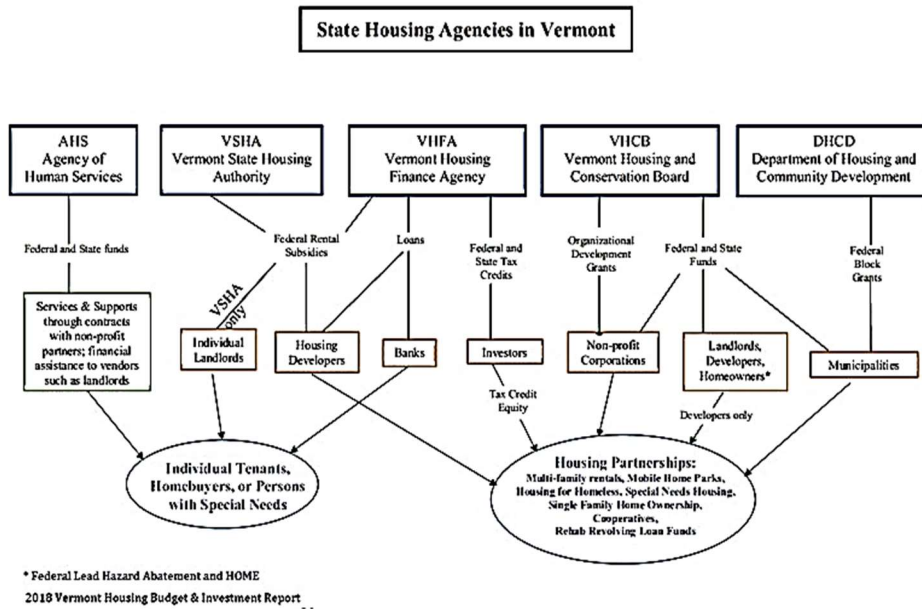
An evaluation of Vermont's long-standing approach to affordable housing development by ICF Consulting found:

The multi-layered housing delivery system provides the State with a range of highly specialized expertise. Although this expertise is housed in a number of different organizations, the system is well coordinated. While a segmented system might not prove effective in every State, it appears to be working well in Vermont. This is

largely due to the sophistication of the funding entities and the level of coordination that takes place among them.<sup>6</sup>

The analysis and recommendations in this report take into account the housing delivery system specific to the State and attempt to build off of the current strengths within and across the agencies.

**Figure 2. Vermont State Housing Agencies**



Source: 2018 Vermont Housing Budget and Investment Report, p. 26

<sup>6</sup> Management Review of Vermont's Nonprofit Housing Development Organizations, ICF Consulting, 2004.

## Funding Sources

Public funding for the production and preservation of affordable housing comes from both the Federal and State levels. Local funding is also available from some municipalities. Different sources of funding are typically combined to make affordable housing projects feasible. Without public funding, it would be challenging, if not impossible, to build and preserve housing that is affordable to lower-income individuals and families.

### **Federal Funds**

More than 85% of the funding for affordable housing in Vermont comes from Federal sources. The primary source of Federal funding for the development of affordable rental housing is the Low Income Housing Tax Credit (LIHTC). The Community Development Block Grant (CDBG) and HOME Investment Partnerships (HOME) programs are other key sources of Federal funding that support the production and rehabilitation of affordable rental housing in the State.

#### ***Low Income Housing Tax Credits (LIHTC)***

The VHFA administers the Federal LIHTC program. Through the LIHTC program, the cost of development is reduced by providing tax credits to developers who then sell them to investors to generate equity for the project. Two types of tax credits are available depending on the type of affordable rental development. The nine-percent credit is generally available for construction of new housing or extensive rehabilitation projects, while the four-percent credit is generally claimed by developers who are doing more modest rehabilitation projects or are doing new construction that is primarily financed with tax-exempt bonds.

The nine-percent credits are awarded to developers through a competitive process administered by the VHFA. Criteria for how tax credits are allocated are spelled out in the State's Qualified Allocation Plan (QAP). Vermont's allocation of Federal credits in 2018 was \$3.11 million, which generated an estimated \$27.4 million in equity for developments once the credits were sold.<sup>7</sup> In addition, VHFA awarded another \$586,000 in four-percent credits, which are issued in conjunction with VHFA tax-exempt bonds, and raised \$5.16 million in equity.

#### ***CDBG and HOME***

Other key sources of federal funding for affordable housing include CDBG and HOME funding. The CDBG program is a HUD-funded, locally-administered program that provides communities with grants to use for a wide variety of housing and community development initiatives, including affordable housing, anti-poverty programs, and infrastructure development. HUD also provides grants to states and localities through the HOME program. Activities supported by HOME funding include new construction and rehabilitation, as well as home ownership assistance.

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<sup>7</sup> All estimates of equity generated through the sale of tax credits are based on VHFA estimate of an 0.882 equity yield in 2019.

The City of Burlington is the only entitlement community in the State receiving funds directly from HUD and receives its own allocation of HOME and CDBG funds. All other communities receive funding as a pass-through from the State.

In Vermont, the CDBG program is administered by the DHCD under the Vermont Community Development Program (VCDP), while the VHCB administers the HOME program. In 2018, CDBG funding totaled about \$5 million while HOME funding totaled nearly \$3 million. Unlike HOME, for which developers can apply directly to VHCB, local municipalities apply to the State for CDBG resources, which are then passed through to eligible end users, including affordable housing developers.

### ***Other Federal Funding***

The State receives \$3 million in funding from the National Housing Trust Fund, which is also administered by the VHCB. Other Federal resources which are targeted to specific types of affordable housing include HUD 202 (housing for the elderly), Rural Development 515 (multifamily rental housing production), and HOPWA (Housing Opportunities for Persons with AIDS) funding. Another resource in many affordable housing projects in the State is the Federal Home Loan Bank of Boston's Affordable Housing Program (AHP).

## **State Funding**

### ***Property Transfer Tax***

The primary State resource for housing development comes from a portion of the property transfer tax, which by statute is dedicated to VHCB. In FY 2018, VHCB received approximately \$7 million in dedicated funds to support housing development from the property transfer tax and the capital bill. This is the only direct and on-going State funding that supports the costs of building permanently affordable housing units.

### ***Housing Bond***

In 2017, Act 85 created the Housing for All Revenue Bond (HRB), which was issued by VHFA and generated \$37 million in funding for affordable housing, which represents the State's largest single investment into housing. The bond proceeds are administered by VHCB to fund the development and rehabilitation of owner-occupied and rental housing for Vermonters with very low to middle-incomes. To date, VHCB has awarded \$34 million to 34 developments comprising 781 homes, including 60 home-accessibility improvements and Habitat for Humanity homes Statewide.

Based on applications in hand, VHCB expects to allocate the balance of the proceeds to projects in January 2020 and HRB will have funded projects in 11 of Vermont's 14 counties. Without additional State funding in FY 2021, the capital available for affordable housing will drop substantially and be below pre-bond levels. Reduced resources and increasing construction costs will directly and negatively impact the level of housing production and improvement in the coming years.

### ***State Housing Tax Credits***

In FY 2018, the Federal Housing Tax Credits were supplemented with an allocation of \$785,000 of five-year State Housing Tax Credits. Of these State Housing Tax Credits, VHFA used \$400,000 to support loans for multifamily housing projects in conjunction with the allocation of Federal Housing Tax Credits.

### ***Other State Funding Sources***

Other, less direct State funding sources for affordable rental housing are the Charitable Housing Investment Tax Credit, and the Downtown and Village Center tax credits available for historic façade and code improvements, which are frequently used for building and rehabilitating upper floor housing, including affordable housing in downtowns and village centers. DHCD administers both of these funding sources, as well as the Federal Historic Tax Credit.

## **Partnerships**

There is a decentralized group of local, regional and State-level affordable housing developers and nonprofit community organizations that cover the entire State and partner with State agencies to deliver affordable housing and services.

Housing Vermont is a unique organization within the State that operates both as a syndicator and developer of affordable housing. Working primarily with local nonprofit partners across the State, Housing Vermont has produced 6,000 affordable apartments in 180 developments since its founding in 1988.<sup>8</sup> Housing Vermont's local partners include nonprofit housing developers from every region of Vermont. These local organizations assist in the project conception, development, and permitting processes, and provide management and oversight of completed projects. At the end of the tax credit compliance period, the local partner is given the option of acquiring the property as one way to guarantee its continued affordability.

The role Housing Vermont has played in partnering with local nonprofit developers has been important to the sustainability of nonprofit affordable developers operating in all corners of the State. Between 2009 and 2018, there were affordable rental housing projects funded in all counties, with the exception of Essex County.

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<sup>8</sup> Housing Vermont's website, <https://www.hvt.org/>, accessed 12/18/2019.

## State Policy Priorities

The primary goal of the State’s housing agencies is to promote the availability of housing affordable to lower-income residents. State funding agencies have established specific priorities for affordable housing funding to help guide allocation decisions, and many of these priorities are held in common across the funding agencies. A key housing priority in Vermont is permanent affordability, which means that all housing that is developed or preserved with State-allocated resources is required to remain affordable in perpetuity. The purpose of this requirement is to ensure that the public investment in affordability is not lost and to avoid the cost of replacing affordable housing due to conversion to market rates or deterioration. This permanent affordability criterion is not unique to Vermont, although national research suggests it is a relatively uncommon priority. A 2015 study focused on the LIHTC program reviewed allocating agencies’ 2013 QAPs and found that only two states (Utah and New Hampshire) had adopted threshold requirements for permanent affordability and one more (Massachusetts) had incorporated point-based incentives at that point in time.<sup>9</sup>

Another housing priority in Vermont is the focus on housing with supportive services. In the State’s QAP, a project that sets aside 25% of the Housing Credit units as units for homeless individuals or individuals at risk of homelessness receives four checkmarks in the evaluation process (In allocating competitive tax credits to projects, the State reviews project characteristics and awards “checkmarks” that amount to points in favor of an application). Only two other evaluation criteria can receive more checkmarks (five)—projects located in a Downtown, Village Center or Neighborhood Development Area; and General Occupancy projects that provide a majority of units as two-bedroom units or larger.

The State’s affordable housing funding processes and criteria also reflect other important State policy priorities. While these other priorities are not specific to affordable rental housing, the emphasis on these Statewide goals impacts how affordable rental housing projects are evaluated for receiving housing funds from the State. These priorities also can impact the cost of delivering affordable rental housing as projects are designed to meet these goals.

### **Energy Efficiency**

An emphasis on energy efficiency and renewable energy sources has long been a part of Vermont’s identity. Efficiency Vermont was created in 1999 by the Vermont Legislature and the Vermont Public Utility Commission, and in 2000 began offering services and funding to help reduce energy costs for Vermonters and to promote renewable energy sources.

In 2011, the State set specific goals for achieving State energy needs from renewable resources. In 2016, the Comprehensive Energy Plan (CEP) established three specific goals for promoting energy efficiency in the State:

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<sup>9</sup> Nelson, Marla, and Elizabeth Sorce. “Supporting Permanently Affordable Housing in the Low-Income Housing Tax Credit Program: An Analysis of State Qualified Allocation Plans,” January 2013. Pages 4-6.



- Reduce total energy consumption per capita by 15% by 2025, and by more than one third by 2050.
- Meet 25% of the remaining energy need from renewable sources by 2025, 40% by 2035, and 90% by 2050.
- Three end-use sector goals for 2025: 10% renewable transportation, 30% renewable buildings, and 67% renewable electric power.

Affordable housing projects that receive funding through VHCB or VHFA must meet standards for energy efficiency and renewable sources established by their jointly adopted Roadmap to Energy Efficiency. These standards exceed the State's Residential and Commercial Building Energy Standards and are intended to lower operational costs, increase residents' health and comfort, and reduce carbon emissions. Additionally, VHFA has established Green Building and Design Standards to encourage developers who apply for VHFA financing and Housing Tax Credits to incorporate green practices, materials, and design into the planning and construction of their buildings. VHFA's standards incorporate Efficiency Vermont's energy standards, and emphasize energy efficiency, good indoor air quality, and other features such as native vegetation that reduce the negative environmental impact of development.

Other approaches incentivized by State housing funding agencies go further than the Efficiency Vermont standards. Two specific approaches are Zero Energy Buildings and Passive House. A Zero Energy Building is an energy-efficient building where, on a source energy basis, the actual annual delivered energy is less than or equal to the on-site renewable exported energy. Passive House is a rigorous, voluntary standard for energy efficiency in a building, reducing its ecological footprint. It results in ultra-low energy buildings that require little energy for space heating or cooling. Passive House standards are enumerated by two certifying bodies—Passive House Institute U.S. (PHIUS) or Passive House International (PHI).

In the State QAP, all units except mobile homes must conform to the VHFA Green Building and Design Standards. Mobile homes must meet Energy Star standards. Projects that will be constructed to and certified as meeting either Passive House Construction standards or Net Zero construction standards receive one checkmark in the review and evaluation process.

VHCB's core mission is conservation and ensuring a high quality of life for future generations. In addition to its requirement for energy efficiency, VHCB gives priority to projects that make use of renewable energy sources, including methane/biogas/biofuel, solar electric/photovoltaic, wind, geothermal, and hydro energy installations.

VHFA and VHCB are currently reviewing their energy standards and incentives as the State updates its energy codes. The agencies' goals are to provide developers with more flexibility and align more closely with the standards set by the State while supporting Vermont's overall energy goals.

## Historic Preservation

Preservation of Vermont's historic resources is another important goal for the State. The Vermont Division for Historic Preservation serves as the State Historic Preservation Office and guides the State's historic preservation agenda, which includes a range of activities designed to preserve the State's cultural, historical, and architectural legacy.

The State also has created priorities for historic preservation in the processes for allocating funding for affordable rental housing. The VHCB strongly emphasizes historic preservation in its funding decisions and historic preservation is a named goal in VHCB's statute. Indeed, much of the housing developed in Vermont is in historic buildings in Downtowns and Village Centers, where buildings are rehabilitated to retain historic features and to improve energy efficiency. The State has a long history of also funding the adaptive reuse of buildings, such as vacant schools or commercial buildings converted into affordable housing.

In the State's QAP, proposed projects that are in a Downtown, Village Center, or Neighborhood Development Area receive five checkmarks in the scoring criteria. While the criterion is important for incentivizing more dense development in the State to achieve Smart Growth goals, it also serves to encourage projects to take advantage of historic preservation tax credits that are available in Downtown and Village Center areas.

The State has several funding sources designed to help meet historic preservation goals, some of which have been important sources of funding for the redevelopment of historic buildings as affordable rental housing. Through the Downtown and Village Center Tax Credits, the State provides funding for the revitalization of buildings in designated Downtown and Village Center areas. Between 2014 and 2019, the Downtown and Village Center tax credit program awarded credits to 26 projects that provided some kind of affordable housing (including those combined with Low Income Housing Tax Credits). The total allocation of these 26 projects was \$3.3 million with project costs estimated at more than \$56 million.<sup>10</sup>

In addition to the State credits, the State, in collaboration with the National Park Service, administers the Federal Historic Tax Credit program, or the Federal Rehabilitation Investment Tax Credit (RITC). Between 2014 and 2018, nearly \$72 million in Federal historic tax credits were awarded to support 66 projects, which includes \$6.6 million in support of 24 affordable housing preservation projects.

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<sup>10</sup> Email correspondence with Caitlin Corkins, Tax Credits and Grants Coordinator, Vermont Agency of Commerce and Community Development, 12/5/2019.

# RENTAL HOUSING DEVELOPMENT COSTS IN VERMONT

## Affordable Rental Housing Development Costs

This section examines the factors that impact the cost of developing affordable rental housing in Vermont. The research team used data on 105 affordable rental projects that received funding from VHFA, VHCB and/or DHCD over the 2009 through 2018 period. These projects totaled nearly 3,500 units and included both new construction and rehabilitation projects.

Nearly all of the projects in this analysis (100 out of 105 projects) received funding from VHFA and 90% (94 out of 105 projects) received funding from VHCB. Slightly more than half of the projects (56 out of 105 projects) benefited from funding from the DHCD. The database used for this analysis includes projects in 13 out of the 14 counties in the State (the exception being Essex County).

This section provides insights into many of the factors that drive the cost of delivering affordable rental housing in the State, including project size, type, and location. However, there are other factors that may be related to development costs that are not included in the analysis because of a lack of data or a lack of variation across the State. Examples include construction wages, material costs, the length of the development process, and other factors associated with local development review and approval processes and/or addressing community opposition.

### Data

The VHFA maintains the State's Interagency Affordable Housing Database, which includes data on all affordable multifamily residential properties supported by State funding. VHFA made this database available to the research team on July 1, 2019. The database includes project-specific details including but not limited to number of units, residential and commercial square footage, location, owner, developer, property manager, funding sources, development cost and expense details, annual financial information, tax credit allocations, State priority characteristics addressed, building, unit, and tenant details. Additional Census data was added by linking project addresses to Census tracts.

### Methods

This analysis used descriptive analysis as well as multivariate regression analysis to examine the factors associated with the costs of developing affordable rental housing in the State. The primary measure of costs was total development cost (TDC) per unit. This measure was used to be consistent with other research on development costs.<sup>11</sup> Data on TDC per residential square foot was also available; findings from analyses of both of these measures were consistent. The TDC data include costs of acquisition, hard costs, soft costs, developer fees, and syndication fees.

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<sup>11</sup> Lubell, Jeffrey and Sarah Wolff. 2018. *Variation in Development Costs for LIHTC Projects*. Rockville, MD: Abt Associates, prepared for National Council of State Housing Agencies.

Per-unit TDC data were analyzed for projects with different characteristics in order to explore how those characteristics might be related to overall costs. The factors that were considered were based on a review of other research on development costs, as well as the availability of data.

Descriptive statistics were prepared to help understand how project costs generally vary across different project characteristics. However, the results from the descriptive analysis should be used in tandem with the multivariate regression results. The multivariate analyses use statistical techniques to control for a range of project characteristics to attempt to isolate which specific factors are *significant* predictors of development costs and what the *magnitude* of the impact is of each factor.

In the regression analysis, per-unit TDC is used as the dependent variable and a range of project characteristics as the independent variables. Alternative model specifications also were tested. The final model results reported in this section reflect the most robust specification, based on an examination of measures of the models' goodness-of-fit (i.e., the adjusted R-squared values), as well as the consistency in the directions and magnitudes of the coefficients.

Multivariate regression analysis is a valuable tool for attempting to isolate factors associated with development costs, but there are limitations to the approach. First, multivariate analysis is a reasonably good tool for detecting correlation between two factors (e.g., region of the State and per-unit TDC) but it is generally not sufficient for determining causality (e.g., building in a particular region of the State *causes* higher per-unit TDCs). Other unobserved and unincluded intervening factors could be the causal factors, and therefore it is important to proceed cautiously when judging causality from this analysis. Second, the model predicts relationships between independent variables and the dependent variables based on probability. The probabilistic nature of regression analysis means that it is possible—though unlikely—that the results are random rather than reflecting actual variation in the data. Because the dataset is relatively small, there is often limited variation across observations, which can make it difficult to find statistically significant relationships.

## Descriptive Analysis of Factors Affecting Development Costs

The following section describes how affordable rental housing development costs in Vermont vary across different project characteristics. Where possible, comparisons are made to estimates of national costs. The analyses presented in this section is meant to show correlations between costs and project characteristics. Specific results should not be interpreted to mean that a particular project characteristic *causes* costs to rise (or fall).

**Overall Costs.** Among the 105 projects included in the descriptive analysis, the median total cost of development was nearly \$5 million. The median per-unit TDC was \$211,278 and the average per-unit TDC was \$204,804. There is a considerable range in the per-unit development cost in Vermont, with the 25<sup>th</sup> percentile at \$155,303 and the 75<sup>th</sup> percentile was \$259,409.

Vermont’s data was compared with data from a recent study of LIHTC projects that utilized a national sample of 2,547 properties placed in service from 2011-2016. To provide a meaningful comparison, Vermont cost data were adjusted to reflect 2016 dollars using the RS Means Historical Cost Index. In 2016 dollars, the median per-unit TDC for affordable rental project funded in Vermont between 2009 and 2018 was \$227,719 and the average per-unit TDC was \$215,682.

**National data.** According to a recent report on LIHTC projects published by the National Council of State Housing Agencies (NCSHA), the median per-unit development cost nationally was \$164,757 in 2016 dollars. For New England states, the median was \$234,101.<sup>12</sup>

**Figure 3. Per-Unit TDC (2016 \$s)**

	Number of Projects	Number of Units	25 <sup>th</sup> percentile	50 <sup>th</sup> percentile (median)	75 <sup>th</sup> percentile	Average (mean)
<b>Vermont<sup>a</sup></b>	105	3,446	\$166,954	\$227,719	\$266,546	\$215,682
<b>U.S.<sup>b</sup></b>	2,547	162,447	\$121,254	\$164,757	\$224,903	\$182,498
<b>New England<sup>b</sup></b>	183	10,224	\$174,277	\$234,101	\$305,138	\$251,197

<sup>a</sup>Vermont data includes all State-funded projects included in Interagency Affordable Housing Database over the 2009 through 2018 period.

<sup>b</sup>U.S. and New England data from: Lubell, Jeffrey and Sarah Wolff. 2018. *Variation in Development Costs for LIHTC Projects*. Rockville, MD: Abt Associates, prepared for National Council of State Housing Agencies. LIHTC projects only. The sample included 2,547 projects placed into service between 2011 and 2016.

**Costs Over Time.** Because of the small number of projects placed into service in any given year, there is a lot of variability in per-unit TDCs over the 2009 through 2018 period. For example, while the median per-unit TDC increased by 37% between 2017 and 2018, it had declined by 22%

<sup>12</sup> Lubell and Wolff (2018).

between 2016 and 2017. The mix of projects in any given year (e.g., rehab versus new construction) is a key driver of the year-to-year differences in per-unit TDC.

In addition, costs vary significantly within each year. Over the 2009 to 2018 period, there was a range of about \$100,000 between the 25<sup>th</sup> percentile and 75<sup>th</sup> percentile per-unit TDC. This variability makes it challenging to determine an overall trend over the past decade.

**National data.** *Nationally, per-unit costs for LIHTC projects have generally risen over time. However, after adjusting for general construction costs inflation, the trend largely disappears. This means nationwide LIHTC construction costs generally grew at about the same rate as overall construction costs, at least over the 2011 through 2016 period.*<sup>13</sup>

**Figure 4. Per-Unit TDC (2016 \$s) by Year, Vermont**

Year	Number of Projects	Number of Units	25 <sup>th</sup> percentile	50 <sup>th</sup> percentile (median)	75 <sup>th</sup> percentile	Average (mean)
2009	6	152	176,748	236,023	334,170	249,501
2010	13	482	138,671	208,545	251,175	186,615
2011	15	680	97,429	231,377	280,647	212,739
2012	13	373	185,820	222,444	254,622	210,371
2013	13	362	161,918	242,348	281,255	219,247
2014	8	199	141,994	263,254	282,598	223,369
2015	12	426	155,062	210,091	257,157	207,411
2016	9	310	189,695	255,028	284,633	240,146
2017	10	321	103,491	199,518	243,772	183,325
2018	6	141	262,008	274,161	286,408	279,504
All Years	105	3,446	\$166,954	\$227,719	\$266,546	\$215,682

The State database included data on main cost categories:

- Acquisition of land and/or existing buildings;
- Hard costs associated with the actual construction, primarily materials and labor;
- Soft costs, including but not limited to legal fees, financing costs, and State and local fees;
- Developer fee, which compensates the developer for its time, expense and risk;
- Reserves for replacement and operating expenses, among others; and
- Syndication, or costs associated with the process by which LIHTC allocations are sold to investors to generate upfront development capital.

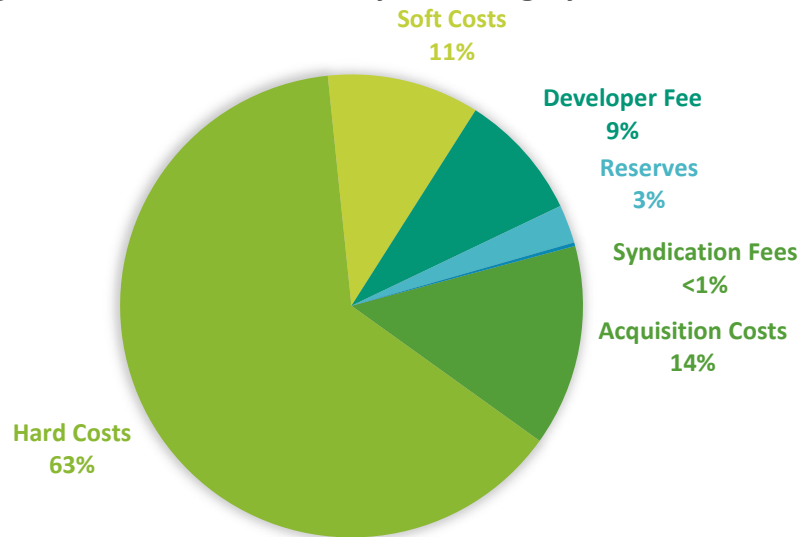
<sup>13</sup> Lubell and Wolff (2018), p.13.

As with overall costs, there is significant variation year-to-year in these cost categories (not shown), driven by the mix of projects placed into service in any given year. During the 2009 to 2018 period, hard costs accounted for two-thirds (67%) of total development costs, while acquisition costs accounted for 14% and soft costs<sup>14</sup> accounted for 11%. On average, the developer fee accounted for 9% of total per-unit development costs, and reserves were about 3%.

**Figure 5. Median Per-Unit Costs (2016 \$s) by Cost Category**

Projects 2009-2018	
<b>Number of Projects</b>	105
<b>Number of Units</b>	3,446
Median Per-Unit Costs      2016 \$s	
<b>Acquisition Costs</b>	\$31,474
<b>Hard Costs</b>	\$141,814
<b>Soft Costs</b>	\$23,773
<b>Developer Fee</b>	\$19,896
<b>Reserves</b>	\$5,999
<b>Syndication Fees</b>	\$565

**Figure 6. Share of Total Costs by Cost Category, 2009-2018**



Source: Interagency Affordable Housing Database

<sup>14</sup> Examples of soft costs include local fees, architecture and engineering, and legal expenses, among other costs.

**Costs in Different Parts of the State.** There was significant variation in the median per-unit TDC in regions across the State. The lowest per-unit TDC was in the Northwest region, excluding Chittenden County, where the median per-unit TDC (\$156,888 in 2016 dollars) was about \$70,000 lower than the Statewide median. The median per-unit TDC was also below \$200,000 in the Northeast Kingdom region. The highest costs in the State were in the Central region, where median per-unit TDC (\$253,510) was about \$36,000 higher than the Statewide median. Per-unit costs were above the Statewide median in the Southeast and Southwest regions of the State, as well.

**Figure 7. Per-Unit TDC (2016 \$s) by Region, Vermont**

Region	Number of Projects	Number of Units	Median Per-Unit TDC	Counties
Chittenden County	31	1,604	\$213,452	Chittenden
Northwest Region	13	284	\$156,888	Grand Isle, Franklin, Lamoille
Northeast Kingdom	6	115	\$183,495	Orleans, Essex, Caledonia
Central	14	277	\$253,510	Addison, Washington, Orange
Southeast	25	681	\$242,348	Windham, Windsor
Southwest	16	485	\$230,306	Rutland, Bennington
Statewide	105	3,446	\$227,719	

### Costs by Project Characteristics

The characteristics of a particular project are key determinants of the total costs of delivering the project.

#### Project Type

Among projects funded between 2009 and 2018, new construction projects had higher per-unit development costs than did rehab projects, including both historic preservation projects, as well as moderate rehab projects. The median per-unit TDC for new construction projects was \$261,551 compared to \$243,772 for historic preservation projects and \$184,136 for more moderate rehab projects. New construction is typically more costly because it requires more site work, utility development and construction than is required for rehab projects. There may also be additional delays associated with the development review and approval process or community opposition related to new construction projects. Historic rehabilitation projects could have higher costs if there are significant environmental or other hazards that need mitigation.

About a quarter of the developments (25) in the database were scattered site projects. These projects have a median per-unit TDC that is about \$29,000 higher than the overall median per-unit TDC for single-building projects. While the scattered site projects account for about a quarter of all projects, they include just 18 percent of total units in the database.



**Figure 8. Per-Unit TDC (2016 \$s) by Selected Project Characteristics**

Project Characteristic	Number of Projects	Number of Units	Median Per-Unit TDC
<b>New Construction<sup>a</sup></b>	38	1,047	\$261,551
<b>Moderate Rehabilitation</b>	52	1,927	\$184,136
<b>Historic Preservation Rehabilitation</b>	24	670	\$243,772
<b>Scattered Site</b>	25	608	\$243,772
<b>Age-Restricted</b>	39	1,238	\$179,824
<b>General Occupancy</b>	73	2,488	\$243,772
<b>Housing with Supportive Services (HSS)<sup>b</sup></b>	29	691	\$243,517
<b>All Projects</b>	105	3,446	\$227,719

<sup>a</sup> Projects could include both a new construction and rehabilitation component.

<sup>b</sup> Includes all units. Total of 171 units in the HSS projects.

**National data.** According to the national study of LIHTC projects, new construction projects are significantly higher-cost than acquisition-rehab projects, with a national median per unit-TDC of \$190,804 versus \$131,074. The higher costs of new construction projects are consistent with other national research.<sup>15</sup> However, these studies did not focus on historic preservation rehabilitation, which is an important component of the rehab portfolio in Vermont.

### Target Population

Among the 105 projects included in this analysis, there were 39 age-restricted projects and 73 general occupancy projects. (Some projects included both elements.) General occupancy housing tended to have higher median per-unit TDC—\$243,772 compared to \$179,824 for age-restricted projects. Age-restricted properties accounted for a little more than a third of total projects and total units in the database. At least part of the difference is attributable to the small unit sizes in age-restricted properties. For example, more than three-quarters of units in a typical age-restricted property are one-bedroom units, compared to about a third of units in general occupancy properties. By comparison, about six percent of units in age-restricted properties are three bedroom; one in five units in general occupancy properties is a three-bedroom unit.

Affordable developments with a portion of units with deeper income targeting and accompanying supportive services (i.e., housing with supportive services or HSS) tend to have higher development costs than other projects. There were 29 such projects in the data, with a total of 691 units including 171 deeply targeted units. The median per-unit TDC for these projects was \$243,517, or more than \$15,000 higher than the overall median. The higher per-unit cost may not be surprising since these projects tend to serve people with special needs and the formerly homeless and

<sup>15</sup> Charles Wilkins, Maya Brennan, Amy Deora, Anker Heegaard, Albert Lee & Jeffrey Lubell (2015) Comparing the Life-Cycle Costs of New Construction and Acquisition-Rehab of Affordable Multifamily Rental Housing, Housing Policy Debate, 25:4, 684-714, DOI:10.1080/10511482.2014.1003141

typically include supportive services, common spaces and private meeting spaces, in addition to residential living space.

**National data.** National data has also demonstrated that housing with supportive services tends to have higher per-unit costs than other projects. For example, in the 2018 study of LIHTC projects, the median per-unit development cost was \$229,711 for units serving homeless individuals, compared to a median of \$164,757 overall.

### Total Units

There are cost efficiencies associated with larger projects whereby fixed costs (e.g., land costs) can be spread over a larger number of units. In general, projects with more units have a lower median per-unit TDC than projects with fewer units. Among projects funded between 2009 and 2018, projects with fewer than 15 units had a median TDC per unit of \$242,348. By comparison, for larger projects, with 40 or more units, the median per-unit TDC is lower. For example, projects with between 40 and 99 units had a median per-unit TDC of \$185,423, about 20% lower than the overall median per-unit TDC. In the database, there were only four projects with 100 or more units and three of those were in Chittenden County.

**National data.** In the 2018 study of LIHTC projects, researchers found that units located within projects of fewer than 100 units had median costs above the median for the entire database, while units located in projects with 100 or more units had median costs below the median for the entire database, suggesting that larger projects benefited from economies of scale.

**Figure 9. Per-Unit TDC (2016 \$s) by Number of Units, Vermont**

Number of Units in Project	Number of Projects	Number of Units	Median Per-Unit TDC
Less than 15	17	195	\$242,348
15 to 24	34	661	\$237,367
25 to 39	34	1004	\$230,197
40 to 99	16	890	\$185,423
100 or more	4	696	\$92,078
All Projects	105	3,446	\$227,719

### Developer Type

The descriptive results show that projects where the developer was a non-profit organization had a median per-unit TDC that was \$74,000 more than projects with a for-profit developer. However, there was a relatively small number of for-profit developers included in the database which makes it challenging to draw conclusions. In addition, for-profit developers tended to focus on particular projects that might have lower costs. For example, in the Vermont database, for-profit developers tend to stay away from scattered site projects which tend to be higher cost.

**National data.** *In the 2018 study of LIHTC properties, projects built by a nonprofit had a median per-unit TDC that was approximately \$45,000 higher than for projects built by a for-profit developer. The study authors commented that possible reasons for higher costs among nonprofit developers relates to the fact that projects developed by nonprofit developers may provide more supportive services and nonprofit developers may be more willing than for-profit developers to take on projects that have higher land costs, significant neighborhood opposition, or the need for substantial zoning changes.*

## **Funding Sources**

Among the projects in the database, there was a range of funding sources. Nearly all projects (100 out of 105) received funding from VHFA, primarily Housing Tax Credit allocations. In addition, 94 received funding from VHCB, including 76 receiving HOME funds. Fifty-six projects received other funding from DHCD. In addition to these main sources, many projects received funding from other public sources (e.g., HUD, USDA), energy funding, other tax credits (e.g., historic tax credits, downtown tax credits), conventional loans and deferred developer fees.

Prior research has found that projects with a greater number of funding sources tend to have higher development costs, a pattern that is observed in Vermont as well. The relationship between the number of funding sources and overall costs can be bi-directional. Higher-cost projects may need to access multiple funding sources, given the funding limits of each individual funding source. There may be legitimate policy reasons for bringing additional funding sources into a development, such as enabling improved energy performance or deeper income targeting. However, there are marginal direct and indirect costs associated with each additional funding source, such as application fees, staff time associated with submitting applications and assembling the financing package, and holding costs associated with incremental increases in the development timeline when funding cycles are not aligned.

The descriptive analysis median per-unit TDC for projects in Vermont with one to three funding sources was nearly \$20,000 lower than those with four or five funding sources and \$80,000 lower for projects with six or more funding sources (multiple loans or grants from a single agency was counted as one source). Nearly half of the projects in the database (50 out of 105) had six or more funding sources, typically including funding from VHFA, VHCB, DHCD, energy funding and/or historic tax credits and some other funding source.

The 56 projects that made use of VCDP funding (administered by DHCD) tended to have higher per-unit costs than projects using other sources. For example, the median per-unit TDC of a project receiving VCDP funding was about \$28,000 higher than the overall median per-unit TDC.

**Figure 10. Per-Unit TDC by Number of Funding Sources, Vermont**

Number of Funding Sources	Number of Projects	Number of Units	Median Per-Unit TDC
1 to 3	16	790	\$171,746
4 or 5	39	1,178	\$191,456
6 or more	50	1,478	\$253,510
All Projects	105	3,446	\$227,719

Some available funding sources specifically are tied to policy goals of the State. The database used for this analysis had information on whether projects made use of Historic Tax Credits or Downtown Tax Credits. There was also information on whether the project received Energy Funding or Efficiency Vermont credits.

The 24 projects that made use of Historic Tax Credits had a median per-unit TDC that was about \$11,000 higher than the overall per-unit TDC for projects in the database. Some of the difference is the higher median acquisition costs (\$990,878 versus \$627,428). The two projects included in the Interagency Affordable Housing Database that were identified as receiving Downtown Tax Credits also had higher costs, about \$38,000 higher than the overall median. Projects receiving energy funding or Efficiency Vermont tax credits had a median per-unit TDC about \$10,000 higher than the overall median.

***National data.** In the study of LIHTC projects, researchers found that projects with the most financing sources (four or more) had above average per-unit TDC. However, the descriptive analysis in the national study did not reveal a clear pattern of the specific types of financing sources that contribute to higher costs.*

### **Multivariate Regression Analysis**

The descriptive analysis above can help identify which factors are related to development costs, but these summary statistics are not always helpful in isolating specific characteristics that could potentially drive higher (or lower) development costs. For example, if projects developed by for-profit developers have lower per-unit costs, but for-profit developers tend to focus on lower-cost projects, such as moderate rehab projects, then the descriptive statistics are not helpful for disentangling whether it is the developer type or project type that is associated with the lower costs.

Therefore, per-unit TDCs were analyzed as a function of a series of project characteristics using multivariate analysis. Figure 10 presents descriptions of the explanatory variables included in the model. These include many of the factors examined in the descriptive analysis, as well as additional policy-related and location variables.

It is important to note that because of the small number of developments and the significant variation in project types and costs, it is challenging to find statistically significant results in the regression model. In addition, there is a lot of collinearity among variables. For example, the number of sources is highly correlated with whether a project received Historic Tax Credits and/or Efficiency Vermont funding. Including explanatory variables that are correlated can result in some variables being statistically insignificant predictors in the model. To address multicollinearity, reduced-form versions of the regression model were employed to estimate total costs associated with historic preservation and energy efficiency policies.

**Dependent Variable**

In the regression analysis, the dependent variable is total development cost per unit, adjusted for inflation to 2016 dollars using the RS Means Historical Cost Index.<sup>16</sup>

**Goodness of Fit**

A number of different model specifications were run as part of the analysis. The independent variables included in the final model collectively explain 46.9% of the variability in the project-level per-unit TDC data (adjusted R-squared = 0.469).<sup>17</sup>

The directions and magnitudes of the final variables included in the model were relatively stable across multiple specifications, which is an indication that the results presented in this model are relatively robust.

**Figure 11. Multivariate Regression Analysis Explanatory Variables**  
**Dependent variable: per-unit TDC (2016 \$s)**

Variable	Description
Units	Number of units in the project
Chittenden	Project located in Chittenden county
Newcon	New construction project
Majorrehab	Major rehab project (omitted category is minor rehab project)
Agerestr	Age-restricted project
Scatter	Scattered site project
Hss	Permanently affordable housing with deep income targeting and supportive services
Sources	Total number of funding sources
Forprofit	Developer is a for-profit developer
Serviceyear	Year project was placed in service
Qct	Project located in a Qualified Census Tract
Historiccredits	Project received Historic Tax Credits
Energy	Project received energy funding/Efficiency Vermont credits

<sup>16</sup> The regression results were similar when an unadjusted per-unit TDC measure was used as the dependent variable.  
<sup>17</sup> The adjusted R-squared is a better measure of goodness-of-fit when there is a relatively small sample size and a relatively large number of variables. The R-squared value for the model was 0.5354.

## Full Model Results

Figure 12 below presents the results of the final multivariate regression model. Some variables that were not statistically significant were kept in the model because they are believed to be theoretically important to explaining variation in per-unit development costs and their inclusion improved the overall goodness of fit of the model.

The coefficients are interpreted as the impact on per-unit TDC of a one unit increase in the independent variable, holding all other factors constant. Therefore, the coefficient on the **units** variable indicates that this model predicts that an additional unit in a project lowers the per-unit TDC by \$591. This result is statistically significant.<sup>18</sup> This result intuitively makes sense, as a greater number of units allows the developer to spread fixed costs across more units.

Other statistically significant predictors:

**newcon:** New construction projects have significantly higher costs than rehab (including both moderate and more intensive rehab) projects. According to this model, the per-unit TDC for a new construction project, holding other factors constant, was \$70,786 higher than the per-unit TDC for rehab projects.

**agerestr:** Age-restricted projects have an average per-unit TDC that is \$52,998 lower than general occupancy housing. This result may be due in part to small unit sizes in age-restricted properties compared to those designed for families. (See descriptive analysis above.)

**sources:** The number of funding sources is a significant predictor of per-unit TDCs. Results from the regression model show that for each additional funding source, the average per-unit TDC increases by \$2,812. This result could suggest that there are added costs associated with either the application, reporting or some other process associated with securing multiple financing sources. The finding may also mean that more complex, higher-cost projects need to seek out additional funding sources to make the project financially feasible.

**qct:** Qualified Census Tracts (QCT) are HUD-defined areas with lower-than-average incomes of residents. These are areas that can be less well-connected to employment, services and amenities.<sup>19</sup> Projects constructed in a QCT tend to have lower per-unit costs. According to the model, projects in a QCT have an average per-unit TDC that is \$43,635 lower than projects located outside of a QCT.

Other variables were not statistically significant, though they did demonstrate the expected sign in the model results. For example, the variable for housing with supportive services projects was not significant but the **hss** coefficient was positive, suggesting higher costs for developments with these characteristics. There were similar results for the **historiccredits** and **energy** variables. Whether a

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<sup>18</sup> Significant variables are those significant at the  $p < .05$  level.

<sup>19</sup> QCTs change annually, but the current map of QCTs is available at: [https://www.vhfa.org/documents/developers/qct\\_2019\\_vt.pdf](https://www.vhfa.org/documents/developers/qct_2019_vt.pdf)

project was undertaken by a non-profit or private developer was not found to be statistically significant.

**Figure 12. Full Multivariate Regression Analysis Results**

**Dependent variable: per-unit TDC adjusted for inflation**

**No. of observations=105**

**Adjusted R-squared: 0.469**

Variable	Coefficient
<b>Units</b>	-591 *
<b>Chittenden</b>	-8,319
<b>Newcon</b>	70,602 *
<b>Majorrehab</b>	1,018
<b>Agerestr</b>	-52,998 *
<b>Scatter</b>	1,712
<b>Hss</b>	9,609
<b>Sources</b>	2,812 *
<b>Forprofit</b>	-26,288
<b>Serviceyear</b>	-591
<b>Qct</b>	-43,635 *
<b>Historiccredits</b>	23,276
<b>Energy</b>	11,506

\*indicates statistically significant at the  $p < .05$  level

### Isolating the Impact of Specific Policy Variables Using Reduced Forms of the Model

Because of the small sample size and collinearity among explanatory variables, it was not possible to isolate specific impacts of policy priorities (i.e., housing with supportive services, historic rehabilitation, and energy efficiency measures) in the full model. This means that in the full model, it was impossible to isolate the impact of specific policy variables because other included independent variables were correlated with the policies and the potential impacts of these policies were showing up in the estimated coefficients for the other explanatory variables.

To better understand the potential costs of these priorities, the research team wanted to specify models where the policy variables were significant predictors of per-unit TDC. Therefore, reduced forms of the models were estimated, using the policy variable along with only *units* and as the explanatory variables. This approach assumes that other project characteristics are correlated with the policy variables. We use the results from these reduced form models, rather than the full regression results, to quantify the estimated impact of the policy variables

***hss***: In the reduced form of the model, the typical project with deeper targeted units with supportive services has a per-unit TDC that is \$30,898 higher than a project without such units.

***historiccredits***: In the reduced form of the model, historic rehab projects have a per-unit TDC that is \$23,078 higher than projects that do not make use of historic tax credits.

According to project data provided by the State, there was \$14.4 million in Historic Tax Credit equity provided to 24 projects over the 2009 through 2018 period. This amounts to nearly \$600,000 per project, or an estimated \$21,372 per unit. Therefore, it appears as though the federal Historic Tax Credit provides equity to a typical project that nearly covers the estimated increased per-unit TDC.

**energy:** In the reduced form of the model, projects that received energy funding or Efficiency Vermont tax credits have an average per-unit TDC that is \$40,936 higher than projects that do not have either of these sources of funding.

The Interagency Affordable Housing Database does not include details about the specific energy efficiency or green building interventions in individual projects, so this analysis does not quantify the costs of particular investments.

According to the project data provided by the State, there was a total of \$6.72 million in Efficiency Vermont and energy funding provided to 88 projects over the 2009 through 2018 period. This amounts to \$76,370 per project, or about \$2,500 per unit. The specific operational cost savings to projects realized over time was outside the scope of this analysis but can be assumed to offset, to some degree, the upfront cost of the measures.

## **Summary of Analysis of Quantitative Affordable Rental Cost Data**

In the set of 105 projects in the State's Interagency Affordable Housing Database that were placed in service between 2009 and 2018, and given the project, location and policy-related characteristics available for the analysis, the following conclusions are drawn (all figures refer to findings from the full multivariate regression analysis, Figure 12 on page 37):

### **Project Characteristics**

- According to this analysis, new construction is significantly more expensive than rehab projects, even historic rehab projects. It costs about \$70,600 more per-unit to build new than to complete a typical rehab project, holding a set of other project characteristics constant. Even historic rehabilitation projects, which tend to be fairly complex, have lower per-unit TDC once other characteristics are accounted for in the regression.
- Age-restricted projects tend to be lower cost, potentially due to smaller units in the project. A typical age-restricted project has a per-unit TDC that is about \$53,000 lower than a general occupancy project, again holding other project characteristics constant. Age-restricted properties are much more likely to have zero and one-bedroom units, and much less likely to have three- and four-bedroom units compared with general occupancy projects.



- A project's location within the State does not appear to have a significant impact on per-unit costs. However, projects constructed in a Qualified Census Tract (QCT) tend to be lower cost, with an average per-unit TDC that is about \$44,000 lower than projects located outside of a QCT, other project characteristics held constant. QCTs are defined as areas with lower-than-average incomes, but can be less well-connected to employment, services and amenities.

## **Funding**

- Projects with more financing sources have higher costs. For each additional funding source, the per-unit TDC is about \$2,800 higher, holding other project characteristics constant. Funding sources include State funding, as well as federal funding (e.g., USDA, Historic Tax Credits) and other sources, such as City and private funding.

## **Policy Priorities (based on reduced forms of the analysis described on page 39)**

- Making use of Historic Tax Credits appears to be associated with higher development costs, though it appears that the amount of the federal credit is commensurate to the additional costs associated with historic rehabilitation. Per unit costs for projects receiving Historic Tax Credits were about \$23,000 higher than projects not using the credits. Overall, the total per-unit Historic Tax Credit equity was also about \$21,000 over the 2009 through 2018 period.
- Projects that receive funding for energy efficiency or green building interventions do have higher per-unit costs than other projects by about \$41,000. The funding provided through energy funding of Efficiency Vermont totaled only \$2,500 per unit, suggesting that these funding sources were not covering the total cost of the energy efficiency investments. However, savings in operating costs over the long term could not be estimated from this data set and could offset the upfront costs.
- Housing with supportive services tends to be more expensive to produce and preserve, with per-unit costs that are nearly \$31,000 higher than other projects. Development costs could be higher for these units if additional common space or other facilities were built as part of the project. However, it is unclear why the estimated cost differential is so large and may reflect other project characteristics not captured by the model. Many apartments with deep income targeting serve tenants who have been homeless, who may account for more State expenditures in other sectors (e.g., health care, public safety, other). There is not enough data in this study to estimate if the additional cost is offset by savings to the State in other areas.

## The Influence of General Market Trends on Affordable Rental Development Costs

Vermont’s affordable housing developers operate within a broader development environment, which has an important influence on costs independent of either the developer’s or State’s actions. One approach to understanding this broader context is to compare affordable housing development costs with costs of market-rate development.

It is important to note that differences in the affordable and market-rate rental development models create challenges to making direct comparisons. While some factors—such as material costs—should not differ dramatically between the two models, affordable housing includes some legitimate cost elements generally not borne by market-rate developers. Notably, affordable housing developments often include a developer fee, which covers the developer’s costs and risks associated with undertaking the project. This fee is included in total development costs. While some market-rate transactions include a developer fee, it is more typical to receive compensation through ongoing rental profits or asset appreciation, neither of which is available to most affordable developers. As such, any meaningful comparison of affordable to market-rate development costs must reflect these differences in the respective models.

In conducting this study, the research team originally sought to collect development cost data from Vermont-based market-rate developers to make a direct statistical comparison. Unfortunately, despite substantial outreach efforts, project data for only seven developments were received.<sup>20</sup> This number is insufficient to draw any meaningful statistical conclusions, and it is not large enough to preserve the confidentiality that was a condition of receipt of the data. As such, these development cost data are not presented in this report.

To draw lessons in a limited information environment, the research team reviewed other research and studies to identify other relevant comparative data. The team also used proprietary construction cost estimation data (RSMMeans)<sup>21</sup> to compare general cost trends within Vermont, as well as to compare costs in Vermont to national costs. Without the ability to make “apples-to-apples” comparisons, this analysis focuses on broad trends rather than drawing firm conclusions regarding the relative costs of market-rate versus affordable development. Finally, the research team reviewed literature, conducted interviews, and held a focus group discussion with private and

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<sup>20</sup> Obtaining market-rate rental development data is a consistent challenge in studies of affordable rental housing development costs. Studies for which this was a significant challenge include:

CA Department of Housing and Community Development, CA Tax Credit Allocation Committee, CA Housing Finance Agency, and CA Debt Limit Allocation Committee. “Affordable Housing Cost Study: Analysis of the Factors That Influence the Cost of Building Multifamily Affordable Housing in California,” October 2014. <https://www.treasurer.ca.gov/ctcac/study.asp>.

Jakobovics, Andrew, Lynn M. Ross, Molly Simpson, and Michael A. Spotts. “Bending the Cost Curve: Solutions to Expand the Supply of Affordable Rentals.” Washington, DC: Enterprise Community Partners & ULI Terwilliger Center for Housing, January 2014. <http://www.enterprisecommunity.org/resources/bending-cost-curve-solutions-expand-supply-affordable-rentals-13127>.

<sup>21</sup> RSMMeans data includes the cost of materials, labor and equipment and can be used for construction estimating. Data is available for different construction types and finishes and is available at the national level on a per-square foot basis with adjustments for various project characteristics. RSMMeans also provides a City Cost Index, Location Factors, and Historical Cost Index that adjust national figures to account for local conditions, and conditions over time. Unless otherwise indicated, all subsequent construction cost analysis is based on Neighborhood Fundamentals, LLC tabulations of data from: Gordian. “Square Foot Costs with RSMMeans Data 2019 (40<sup>th</sup> Annual Edition).” 2018.

for-profit developers to obtain qualitative information on the differences between development models in the State of Vermont.

### **Quantitative Comparisons with National Market-Rate Data**

In conjunction with the previously mentioned NCSHA study on LIHTC development costs, NCSHA released high-level U.S. data on market-rate development costs.<sup>22</sup> This information can be used to make broad comparisons between the costs associated with delivering market-rate projects and the costs of delivering affordable rental projects in Vermont. For this analysis, all Vermont project data are reported in 2016 dollars to be as consistent with the NCSHA data as possible.<sup>23</sup>

According to the NCSHA data, construction costs (exclusive of land and soft costs) for new market-rate apartments built between 2011 and 2016 averaged approximately \$151,000 per unit (in 2016 dollars). For Vermont affordable rental development, new construction projects completed between 2011 and 2016 had average per-unit hard costs of \$185,195 (in 2016 dollars).

Development costs exclusive of land and soft costs typically represent between 30 to 35% of total development costs. Therefore, the authors extrapolated that the average TDC for market-rate multifamily apartments during the 2011 to 2016 time period would range from between \$196,000 to \$204,000 per unit. To compare, the NCSHA study found that national average TDC for newly constructed *affordable* housing during this period was \$209,000 per unit, meaning that national affordable rental new construction costs were marginally higher than national market-rate development costs in that study. Our analysis found that per unit-TDC for new affordable rental housing (new construction only) in Vermont averaged \$270,263 in 2016 dollars, higher than the average per-unit costs for both national affordable and market-rate new construction.

### **Quantitative Review of Construction Cost Estimation Data Over Time**

To supplement the comparison to the limited market-rate development cost data, the research team reviewed RSMeans construction cost estimation data to identify broader market trends and geographic differences in construction costs. This data includes the cost of materials, labor, and equipment only. Therefore, it will not account for differences in soft costs or acquisition costs over time.<sup>24</sup>

There is general consensus in the development industry that the U.S. is experiencing significant increases in material and labor costs, which translates to higher construction costs. A 2017 analysis

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<sup>22</sup> National Council of State Housing Agencies. "Development Costs and Cost Drivers in the Housing Credit Program." NCSHA, September 7, 2018. <https://www.ncsha.org/resource/cost-study/>.

<sup>23</sup> Vermont cost data were converted to 2016 dollars using historical cost index data reported by RSMeans.

<sup>24</sup> The research team spoke with development practitioners regarding the reliability of construction cost estimation tools, in general, and RSMeans data, in particular. Of particular interest was the accuracy of such data in geographies where there is less construction occurring. The consensus among interviewees was that the nuances of any given project render such tools inaccurate for projecting the costs of a specific development. However, other practitioners have observed that accuracy improves when looking at broader geographic scales (e.g., the relative cost of development in one city or State versus another) or trends over time. In reviewing the suitability of RSMeans data for the purpose of this analysis, the research team found that for the limited purpose of geographic and time-related differentiation, the data was broadly consistent with other literature and data sources. The use of this resource is also consistent with other research and literature, including the NCSHA cost study.

by Fannie Mae found that apartment construction costs have been rapidly increasing from 2013 onward across all building types, with the largest increase (30%) found in the construction of one-to-three story buildings.<sup>25</sup> Such increases could have a significant impact on the cost of rental development in Vermont, given the high proportion of smaller-scale developments in its portfolio.

The research team’s analysis of RSMMeans data found substantial increases in construction costs, both nationwide and in the two Vermont cities (Burlington and Rutland) with historical cost index data. To adjust for the wide year-to-year variability in the Vermont affordable dataset, annual average costs were calculated as three-year rolling averages and compared to RSMMeans annual cost trend data, also calculated as a three-year average.

Based on this analysis, development costs are increasing faster in Vermont than in the rest of the country, and *affordable* rental housing development costs are increasing faster still. Between 2011 and 2018, overall national construction costs increased by 15.5% while costs in Burlington and Rutland increased by 23% or more. Over the same period, Vermont’s affordable rental development costs increased faster than the national average, with per-unit hard costs increasing by 35.9%.

**Figure 13. Comparison of Per-Unit Cost Trends (all types/asset classes), 3-year Rolling Averages, 2011-2018**

	Percentage increase	Average Annual Increase
<b>Vermont affordable dataset*</b>		
Average total development costs	21.9%	3.1%
Average hard costs	35.9%	5.1%
<b>US 30 city average</b>	15.5%	2.2%
<b>Burlington average</b>	23.9%	3.4%
<b>Rutland average</b>	23.0%	3.3%

\*New construction only.

### Other Cost Trends and Practitioner Observations

To supplement the quantitative analysis, the research team conducted a series of practitioner interviews and focus groups. These conversations provided deeper insight into the relevant distinctions between the market-rate and affordable housing development models.

#### Labor and Material Costs

Bigger increases in hard costs in Vermont suggest that labor and material costs are important cost drivers in the State. Practitioners echoed the findings of the quantitative analysis, pointing to increases in the cost of materials and labor, outside of the influence of Vermont’s policy

<sup>25</sup> Fannie Mae, “Fannie Mae Multifamily Market Commentary,” March 2017.

environment. A shortage of labor and difficulties obtaining some materials were particular challenges.

### **Comparisons Between Market-Rate and Affordable Development Models**

Among developers that have produced both market-rate and affordable developments, there was no consensus among focus group participants on whether market-rate development was more cost effective overall. Accessing public financing (including the incremental cost of layered financing) and developer fees were some of the factors cited as contributing to higher “top-line” costs for affordable housing, though developers acknowledged that the developer fee structure is necessary given the inability to earn a profit or fund operations through cash flow or appreciation. One developer said that funding agencies’ requirement of 20-year capital needs planning has had a positive impact on quality and keeping lifecycle costs manageable.

Hard costs are more directly comparable for the affordable and market-rate models. Some participants offered there was no substantial difference in hard costs. Among those that did find hard costs to be higher for affordable developments, the estimated incremental costs ranged from “minimal” to a more substantial \$50 per square foot. Some attributed slightly higher hard costs to market-rate developers’ greater flexibility to change project scope and materials in order to cut costs throughout the development process. In addition, it was suggested that nonprofits “build better buildings,” partially driven by requirements from funding sources, and also because of an inability to draw on future cash flow to solve after-the-fact issues.

Affordable housing developers’ commitments to individual projects may also result in somewhat higher costs. In a market-rate project, if significant challenges arise, the project may be abandoned due to the risk involved or the lack of access to patient predevelopment capital. Nonprofits may continue to push forward with difficult projects to protect public investment already made and will seek additional funding.

Market-rate practitioners may have marginally more flexibility in assembling a development team than affordable developers. Practitioners observed that bringing construction managers into the process early can lead to improved cost estimation and facilitate early-stage value engineering and cost-mitigation efforts. While practitioners observed that State agencies do not have prescriptive rules that prevent these or other development team structures, other funding sources (including USDA Rural Development funds) may impose bidding requirements that reduce flexibility.

Other drivers of costs identified in these discussions applied relatively equally to market-rate and affordable housing developers. These included impact fees, the cost of infrastructure, and the length and difficulty of the permitting and approval process.

## Summary of Market Trends in Affordable Rental Housing Development Costs

A lack of Vermont-based market-rate development data makes it difficult to make significant comparisons with affordable housing development. However, the combination of quantitative and qualitative evidence suggests that:

- Vermont’s affordable housing development costs are being influenced by the rising cost of material and labor. Labor shortages, in particular, have been a persistent challenge for both market-rate and affordable developers in the State for years.
- The most recent data, practitioner observations, and forward-looking projections by RSMMeans suggest that construction costs will continue to increase for the foreseeable future.
- The cost of development in Vermont overall and affordable housing development, in particular, is increasing faster than the overall U.S. market. In addition, evidence suggests Vermont’s affordable housing development costs are increasing faster than the Vermont market as a whole.
- Some of this difference is likely attributable to specific project characteristics often designed to meet State policy priorities, as well as investments in building quality.

## Summary of Key Cost Drivers in Vermont

Using the findings from quantitative and qualitative analyses and informed by extensive outreach to Vermont-based stakeholders, the research team identified the cost drivers that are most pertinent to the cost of developing affordable rental housing in the State. This section provides a brief summary of these costs, leading with those that are most broadly applicable to both market-rate and affordable development.

### **Labor and Material Costs are High and Increasing.**

As discussed in the preceding section, the key drivers of baseline costs of real estate development construction labor and the price of materials—have been increasing. This trend is expected to continue in the coming years. Labor cost increases are driven by a shortage of construction workers and building trades companies/workers, a challenge that was first identified in prior Vermont focused research.<sup>26</sup>

### **Vermont’s Affordable Rental Housing Developments Lack Economies of Scale.**

Qualitative evidence and this study’s quantitative analysis show that developments with larger unit counts are generally more cost-effective on a per unit basis, given the ability to amortize certain

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<sup>26</sup> Santucci, 2008.

fixed baseline costs (e.g., land) and/or industry-specific costs (e.g., the cost of navigating the application/award process) over a larger number of units.

The lack of scale in the Vermont affordable housing delivery system results from a combination of forces, some of which are structural, including limited demand in rural areas and limited subsidies from federal programs. Others fall at least partially within the discretion of State and local stakeholders. These can include limits to density and height in local land use and zoning codes (or negotiated through discretionary review processes) and policy-related decisions to spread subsidy resources relatively evenly throughout the State. For example, the State could achieve scale by concentrating resources in the largest cities that can accommodate larger-scale developments. However, absent a significant increase in resources, the tradeoff would mean developing fewer projects and units in the State's smaller communities, potentially eroding the State's capacity to meet critical local housing needs. Finally, although some work in this area is being done, the relatively small number of developments and units produced in the State (including both affordable and market-rate) can also serve as a barrier to testing and adopting innovative building techniques, such as using manufactured or prefabricated components in multifamily development.

### **Locally-Required Fees and Conditions Add Direct Costs.**

Local jurisdictions place a number of fees and conditions on development, particularly if the developer is seeking additional entitlement and/or other regulatory waivers. In addition to impact fees and costs associated with the application review process, developers may be asked or required to provide a series of community benefits, including energy efficiency and sustainability features, and other elements to promote community character. These requirements can be in place even if a project is "by right," and raise the baseline cost of development.

Some fees and conditions (e.g., requirements to provide infrastructure at a scale necessary to serve the property or offset legitimate environmental impacts) may represent necessary investments to accommodate the sustainable growth of a community. However, even well-designed requirements can place a financial burden on funding-constrained affordable housing developments and may create the need to seek out additional sources of subsidy. When requirements are inappropriately calibrated, they create inefficiencies that inflate costs and or inhibit development. For example, permit fees calculated on a per-unit or per-square foot basis place an additional burden on larger developments, serving as a barrier to economies of scale. Excessive parking requirements can add to hard costs and create opportunity costs, as limited land and capital is dedicated to car storage instead of homes. Finally, restrictions on density and building form can reduce the number of units in a development, making economies of scale more difficult to achieve.

### **Developments Must Receive Approval at Multiple and Often Uncoordinated Levels.**

Similar to many other jurisdictions throughout the U.S., difficulty in obtaining local land use approvals and the necessary community engagement process required was cited as a challenge to cost-effective development in the State. This increases baseline costs (e.g., land holding costs) and

can lead to inefficiencies (e.g., duplicated environmental reviews triggered by delays in the development timeline).

Local codes and regulations can be at odds with or not integrated with State codes and regulations. In addition to municipal land use/zoning, there is a robust State process (e.g., environmental review), State land use regulations (e.g., Act 250; see more below), and other State permitting processes (e.g. wetlands, wastewater). Affordable housing subsidies add yet another layer to the process. These approval processes are not tied to each other, leading to an iterative and lengthier approval process. Furthermore, requirements may be directly contradictory, requiring negotiation and/or costly redesigns to reconcile. For example, the building orientation optimal to meet specific energy requirements may not be allowed by-right, or a public works department's standard on infrastructure may not be optimized for a pedestrian-oriented environment called for in other planning regulations. Finally, a lack of capacity to review applications can lead to delays, either as a result of insufficient staffing for review and inspections or a lack of sophisticated development knowledge.

### **Act 250 Approvals can Exacerbate Other Approval-Related Challenges.**

Overall conversations in focus groups and interviews indicated wide variation in perspective on the extent to which Act 250 has an adverse impact on the costs of developing housing. While some cited Act 250 as a major challenge, others believed the local process and/or navigating local opposition was more of a binding constraint. One consistent theme was that Act 250 approval gave opponents one additional leverage point to stall or stop development, which can increase baseline costs and cause inefficiencies. There was some sentiment that designated areas in which Act 250 approvals are not necessary (assuming the affordability threshold is met) are defined too narrowly, leaving infill sites that meet the intent of the policy outside the boundaries. This limited geography was seen as being in part due to the State-level requirements placed on localities for establishing designated downtowns and other priority growth areas.

### **Infrastructure Requirements Can Add Costs, Though May be Necessary in Rural Areas.**

The baseline cost of development may be increased when developers are required to provide site-serving infrastructure, including but not limited to roads, pedestrian space, water, and sewer. Practitioners observed that municipal water/sewer services are not always available and privately-built water systems are very expensive. These challenges are even more significant in rural areas, where the infrastructure may be a necessary investment to serve the property or community, but rents (and projected revenues) are too low to absorb the additional costs without increased subsidy.

In addition to the need to provide basic infrastructure services, specific requirements may lead to development inefficiencies. For example, road specifications such as minimum width are often set by the State and may not conform with local priorities related to Smart Growth and/or multimodal transportation. This may lead to costly redesigns or the “overbuilding” of infrastructure.



## **Underwriting Requirements Lead to a Substantial Amount of Resources Tied Up in Project Reserves.**

It is standard practice for investors and funding agencies to require upfront capitalized reserves at the project level to protect against adverse conditions that could jeopardize the sound operations and financial viability of an affordable housing development. Vermont's QAP specifies prudent mandatory reserve levels that are at the low-end of the range included in NCSHA's most recent *Recommended Practices* report. Private investors may require incrementally higher project-level reserves which can lead to higher baseline costs of development. Evidence suggests that underwriting criteria have become stricter in the last decade due to broader economic factors and financial sector practices. In addition to traditional reserves focused on operations and replacement costs, developers may be required to post upfront capitalized reserves for other project elements, such as supportive services.

Though these reserve levels may make sense when looking at an individual development in isolation, experienced affordable housing developers managing multiple properties may hold significant sums at the portfolio level. While certain types of reserves are intentionally used over time (e.g., reserves for replacement), some well-managed developers may never draw on operating reserves over the life of the property. While conservative underwriting practices do serve the important goal of giving investors the confidence to participate in affordable housing transactions, the tradeoff is higher upfront costs and significant sums of "idle" capital that could otherwise be used to produce additional units or deeper levels of affordability.

## **Vermont's Policy Priorities Result in Funding Projects with Higher Cost Profiles.**

The consensus among practitioners consulted during the course of this research was that Vermont's affordable housing developers build high-quality structures, sometimes exceeding market-rate standards, that contribute to meeting ambitious policy priorities, such as excellence in energy performance, revitalization of downtown historic properties, durability over time, and the provision of housing with supportive services to the State's most housing-insecure households. Though these investments yield benefits, they also lead to increased costs overall, as demonstrated in this study's quantitative analysis and confirmed by practitioners interviewed for this research. Despite higher costs, practitioners—including the developer network—overwhelmingly supported the State's broad efforts to achieve these goals.

However, the detailed requirements that implement the broad goals can create cost-related challenges. For example, whereas "turnkey" real estate developments can draw on nearly the full market of contractors, builders, and skilled trades, more specialized historic rehabilitation and Passive House projects, for example, may require either specific skillsets and/or products that are more difficult to find locally. This can raise baseline labor and materials costs.

Other inefficiencies can result from problems associated with historic rehabilitation requirements, which many practitioners stated were inconsistently applied and often too rigid. While the U.S.

National Park Service makes the ultimate decision related to design and materials, there is some State-level discretion and there is often deference to the preservation consultants involved in the process. Some projects are required to meet strict standards regardless of the impact on costs compared to the marginal historic benefit. In addition, there may be extensive delays in receiving determinations from the regulatory agencies.

While there was the sense that the investments required to meet more rigorous VHFA and VHC energy requirements do result in better energy performance, there was concern that the new energy codes being adopted by the State might be reaching a tipping point where the investments in green building exceed the benefits. There was a lack of consensus as to whether leading edge energy standards incentivized, but not required in State policies, such as Passive House or net zero energy, were cost-effective or represented inefficient expenditures. Some practitioners believed the “opportunity cost” of spending incrementally larger amounts of subsidy on meeting leading edge goals was that more households live in unimproved buildings with poor energy performance, at a potential net loss from an energy perspective. There was also concern that the updated State energy code expected in 2020 will also be too strict. Despite these caveats about implementation, there was still near-consensus support for promoting energy efficiency in general.

Finally, some practitioners stated that the State’s aggressive policy priorities, combined with nonprofit preferences for some gap resources, created a de facto barrier to entry for for-profit developers considering undertaking affordable rental development. Including housing with supportive services was seen as a strong barrier to entry, given the private-sectors’ relative lack of experience serving this population (or lack of partnerships with service providers). It is unclear whether increased competition from market-rate developers would result in greater cost-effectiveness, barring changes to the type of projects the State funds, its policy priorities, and resources levels. However, if resources levels did increase for projects that fit within the for-profit sector’s model (including affordable age-restricted housing), anecdotal evidence suggests there is spare developer capacity.

### **Fragmentation in the Award of Public Subsidies Can Add Complexities and Cost.**

As is true nationally, affordable housing developments in Vermont must typically assemble multiple layers of financing, which may include a blend of local subsidy, resources from multiple State agencies, and federal sources. Many—though not all—practitioners stated that navigating the award timeline, application process, and regulatory and reporting requirements is a difficult task. Each new source adds directly to baseline and industry-specific costs in the form of fees and legal and closing costs. Separate evaluations for resources can also result in an elongated timeline, increasing land holding costs or the cost of an option-to-purchase. Conversely, it should be noted that some practitioners noted the benefit of being able to access a portion of subsidy resources early in the process, providing resources for predevelopment activities and mitigating some of the risk that the development will not be funded at the very end.

While State-level policy priorities are mostly aligned, practitioners offered that there are sometimes slight differences among the agencies that could be reconciled, and potentially larger differences with local or federal requirements. The latter are largely out of the control of State agencies. For example, the timeline and requirements for the award of Federal Home Loan Bank AHP subsidies were noted as being particularly challenging. However, several practitioners did state that despite higher-level agreement regarding *priorities* for funding, the State agencies' *processes* are not well aligned, leading to inefficiencies in the system. A lack of coordinated review of funding applications led some to suggest that if one agency allocates a funding award that falls below an initial request, some developers may increase the request to another agency, rather than undertake value-engineering to identify cost savings. In addition, some practitioners stated that the iterative and lengthy nature of the layered funding cycle makes it more difficult to evaluate potential savings, creating a “stop-and-start” dynamic in which pricing estimates may change.

There was no consensus regarding the timing of allocation within the calendar year. While some practitioners approved of the current timing (and its relationship to the building season in Vermont), there was not agreement among the others on whether the application timeline should shift earlier or later in the year. Some did offer that funding sources that were only available at one point in the year— independent of the specific timing— could lead to increased holding costs if the application deadline did not align with the development timeline.

### **The State Funding Process Does Not Prioritize Cost-Related Innovation and Savings.**

State funding agencies review development cost reasonableness as part of the proposal and underwriting review process. However, there are no published cost guidelines or incentives, which influences developer behavior. It was clear from the practitioner outreach process that cost control in and of itself is not a motivating factor when compared to other State policy priorities. Instead, cost considerations from both the agency and developer perspective are based on the constraints in the amount of capital available for affordable housing and financial feasibility. While this imposes a measure of cost control to the system, there is less of an incentive to create the most cost-effective project possible, even holding “big picture” policy priorities constant. For example, practitioners that experience specific constraints (for example, a specific cost target, or a “hole” in the development budget because of an overrun) stated that they were able to find savings that did not have a significant impact on quality, such as reducing the width of hallways or marginally reducing the square footage of units.

### **It is Not Possible with Available Data to Identify with Certainty the Causes of Recent Cost Increases Above Market Trends.**

The above quantitative and qualitative analysis allows for a robust analysis of the current cost profile of affordable housing development in Vermont. However, the relatively small number of projects funded each year makes it difficult to explain the rate of increase relative to the broader market. Recent increases beyond market trends could be the result of year-to-year variation in the development characteristics of funded projects. If cost increases over the past two years in the

Interagency Affordable Housing Database are part of a durable trend, it may reduce the number of units the State funding agencies are able to fund. On the other hand, if the past two years reflects unique projects funded by the State, there might not be a concern of permanently escalating costs. This underscores the importance of continuing to monitor and evaluate development costs across the State's portfolio.

## COST-EFFICIENCY STRATEGY AND RECOMMENDATIONS

As public resources for affordable housing remain insufficient to meet the range of Vermont’s housing needs, it is important for the State to look for ways to ensure that existing resources are used cost effectively to deliver as much affordable housing as possible while maintaining the quality of residential buildings and services, as well as meeting the State’s other essential policy priorities.

In developing recommendations for consideration by the three State housing funding agencies and other stakeholders in the State, the research team considered a range of factors, including:

- Key cost drivers of affordable housing development in the State,
- The State’s critical policy priorities and approach to allocating resources,
- Best practices identified in the literature review,
- The potential magnitude of the impact of each recommendation, and
- The degree of difficulty in successful implementation (including whether the proposed activity can be directly implemented by the VHFA, VHCB, and DHCD)

At a high level, the research team did not find any single factor that dictates the cost profile of Vermont-based development, and many of the elements leading to increased costs, especially the market-based costs of labor and materials, are largely outside of the control of State-level stakeholders. Within the purview of the State housing agencies, we found that decisions related to what gets built matter as much—if not more—than the relative efficiency of the affordable housing delivery system.

Projects meeting the State’s core policy priorities—aggressive energy efficiency standards, downtown historic rehabilitation, housing with supportive services—are associated with higher baseline costs, independent of developer practice and/or agency regulatory and allocation structures. There was a remarkable level of agreement among Vermont stakeholders that these high-level policy priorities should be retained, even if there were disagreements on the details of implementation. However, it is clear from the quantitative analysis that meeting these policy priorities as part of the affordable housing funding process can add to costs. Maintaining these priorities can limit the number of paths to meaningfully easing the trajectory of higher costs. To improve cost efficiency while sustaining commitment to key public policy goals, the State housing agencies and their partners should more intentionally focus on three core objectives:

1. Incentivizing incremental improvements to existing permitting, allocation, financing, and development practices;
2. Encouraging experimentation to identify and scale improved design and development techniques that can lead to more meaningful cost savings; and

3. Unlocking additional resources to facilitate additional production of projects with lower baseline cost profiles.<sup>27</sup>

The recommendations below provide a set of actions that can be undertaken by the State housing agencies and their partners to reign in cost increases in the affordable rental housing delivery system, while continuing to fund high-quality projects that serve lower-income Vermonters throughout the State and maintain the agencies' commitments to important State-level policy priorities. These recommendations are also designed to reflect the structure of the State's housing funding agencies, as well as to leverage the partnerships that have been developed over many years.

The following sections provide more details on the specific recommendations. Each recommendation section includes a brief discussion of the key cost drivers that it is intended to address and a reference to the relevant portions of the *Summary of Key Cost Drivers section* for a more robust discussion.

### **Organization of Recommendations**

There are 16 recommended actions included as part of this report, which indicates that there is no one strategy to pursue or shortfall to correct to make improvements on costs. Instead, this report provides a series of steps that the State agencies and other partners can take to improve cost effectiveness in the affordable rental housing delivery system in Vermont.

Recommendations are organized based on the research team's assessment of the potential magnitude of impact and the likely ease of implementation. Assessment of the ease of implementation primarily considered whether the necessary steps are within the direct purview of VHFA, VHCB and/or DHCD and the extent to which the action was possible with existing resources. In practice, impact and feasibility are likely to vary based on specific program design factors that were outside the scope of this analysis. This section provides a framework through which the State housing agencies can prioritize the recommended actions moving forward.

Figure 14 provides a summary overview of where the recommendations described in the following section rank in terms of impact and implementation. In some cases, what otherwise seem like lower-priority actions were elevated because of their complementary nature with other, higher-priority recommendations or because they address a critical issue not related to other high-priority recommendations.

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<sup>27</sup> Funding additional, lower cost developments would have the effect of reducing average and median per-unit costs across the State's portfolio. While this would not represent a reduction in overall costs, such investments can unlock other, underutilized sources of capital, discussed in the recommendations section, improving the overall efficiency of the portfolio.

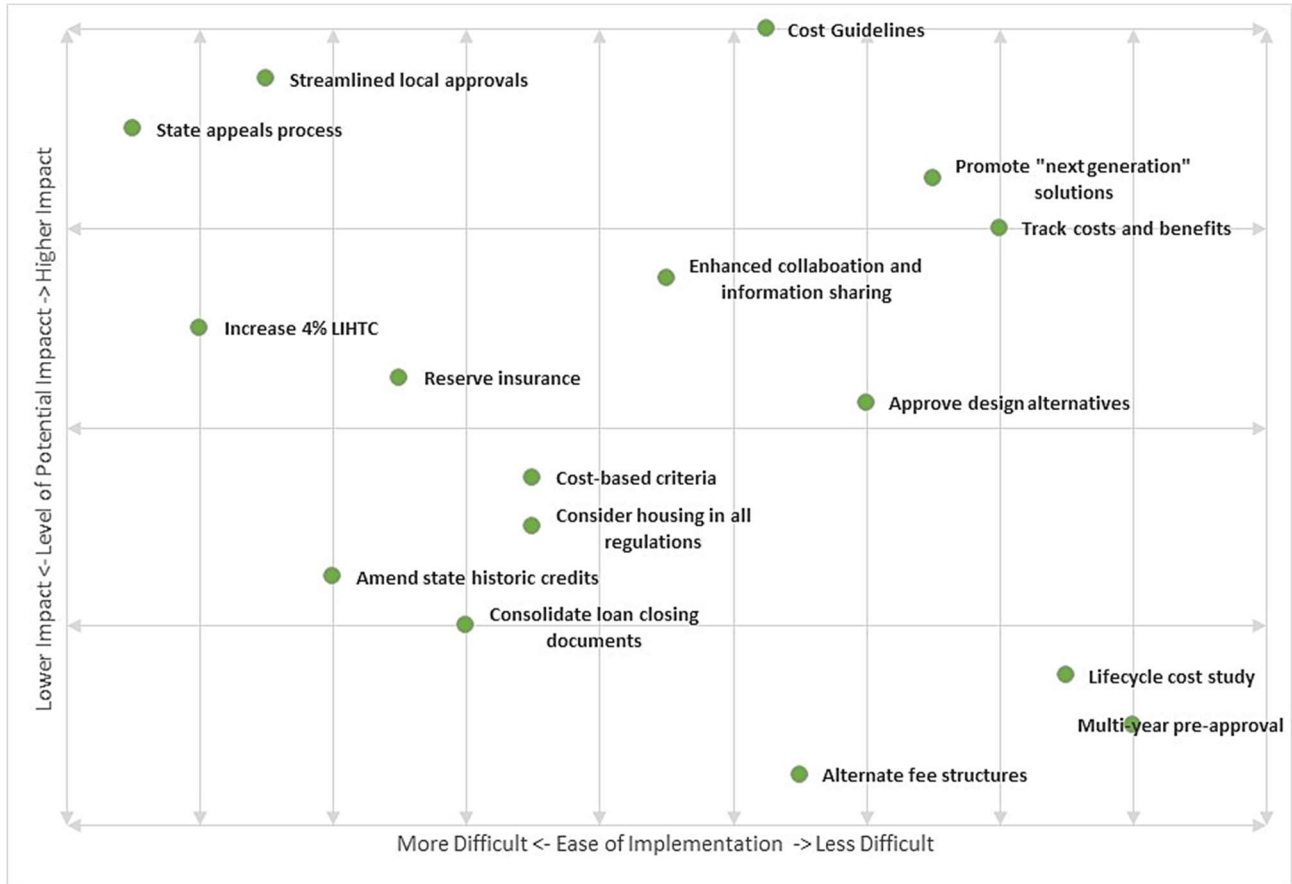
## **Review of Vermont's Past Cost Containment Initiatives**

The State's housing funding agencies have examined development costs over the years, both through internal review as well as by external evaluation. The State has put into practice a number of recommendations from prior cost studies. These initiatives have included:

- Encouraging construction management in projects;
- Funding public-private partnerships (e.g., turnkey projects mixed non-profit and private development);
- Exploring alternative housing models including manufactured and modular housing, tiny homes, and accessory dwelling units;
- Supporting policy work to address housing barriers at the local level, such as reducing parking requirements;
- Requiring 20 year capital needs assessments and incorporating life cycle costs in project underwriting;
- Developing guidelines for mechanical systems to encourage standardization and improved outcomes;
- Working with developers to combine 9% and 4% tax credits to allow a large project to proceed in one phase; and
- Creating a project design position at VHCB which reviews cost and facilitates sharing of best practices.

The recommendations included in this report should be considered as furthering the State's commitment to cost efficiency; indeed, many of the recommendations build upon steps that have already been taken to address rising development costs in Vermont.

**Figure 14. Recommendations: Impact and Implementation Matrix**



## Cost Efficiency Recommendations: Higher Impact, Easier Implementation

**Establish upfront cost guidelines and a formal cost review process as part of the pre-application phase**

*Addresses key cost drivers:*

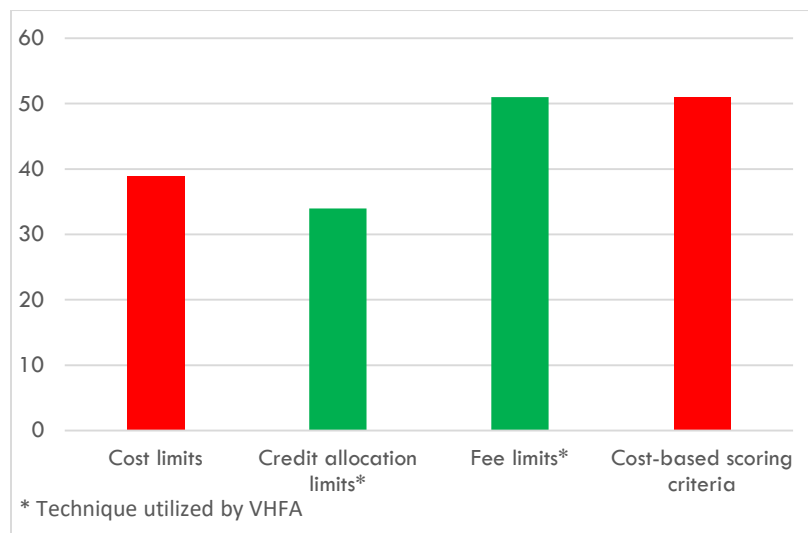
- Fragmentation in the award of public subsidies can add complexities and cost.
- The State funding process does not prioritize cost-related innovation and savings.

Development costs are considered by all State funders in the context of financial feasibility, project design, and subsidy availability. The three State housing agencies do limit the size of funding allocation, set specific fee limits, and review applications for financial feasibility.



However, Vermont is one of the few states without explicit requirements, incentives, or guidelines related to overall costs in their LIHTC allocation process (comprehensive national data for allocation of other subsidy types is less readily available).<sup>28</sup> During this project, information collected from Vermont developers through focus groups and interviews confirm that development costs are not perceived as a constraint to competitiveness for funding.

**Figure 15. Common Cost Techniques in LIHTC Allocation Procedures (number of agencies)<sup>29</sup>**



The most direct way to address rising total development costs across the State’s portfolio is to more consistently and rigorously evaluate total development costs for each project. In coordination, State funding agencies should establish a formal cost evaluation process and publish cost “guidelines”—not cost caps—for developers to consider when scoping projects.

Working within a specific cost constraint can provide a countervailing pressure to the tendency to continuously add project features and can incentivize developers to focus on the highest priorities for that development and the people it is intended to serve. Instituting guidelines may also compel developers to pay more attention to opportunities for marginal cost savings (e.g., producing slightly smaller units) while not compromising on quality.

To be clear, this report does not recommend hard cost caps. These guidelines should be non-binding to account for project-specific requirements. Developers projected to exceed the guidelines should be required to provide written justification for higher costs and work with funding agencies to adjust design and project characteristics to identify efficiencies where possible. The State should retain the flexibility to allow certain high-quality projects to move ahead if exceptional

<sup>28</sup> Spotts, Michael A. “Giving Due Credit: Balancing Priorities in State Low-Income Housing Tax Credit Allocation Policies.” Washington, DC: Enterprise Community Partners, June 2016. <http://www.enterprisecommunity.org/resources/giving-due-credit-balancing-priorities-state-low-income-housing-tax-credit-allocation?ID=0101093>; U. S. Government Accountability Office. “Low-Income Housing Tax Credit: Improved Data and Oversight Would Strengthen Cost Assessment and Fraud Risk Management,” no. GAO-18-637 (September 18, 2018). <https://www.gao.gov/products/GAO-18-637>.

<sup>29</sup> U. S. Government Accountability Office. “Low-Income Housing Tax Credit: Improved Data and Oversight Would Strengthen Cost Assessment and Fraud Risk Management,” no. GAO-18-637 (September 18, 2018). <https://www.gao.gov/products/GAO-18-637>.

circumstances result in higher costs, without such higher costs automatically establishing precedent and accelerating a cycle of cost increases.

Cost guidelines should be set collectively by the three State housing agencies and any other State entity providing housing funding. These should be updated annually and include different guidelines for different geographies and project types based on a quantitative analysis of costs (see case study below). Importantly, guidelines should take into account lifecycle costs to avoid jeopardizing the long-term physical and financial viability of development, particularly in the context of the State's permanent affordability requirement.

The effectiveness of this approach would be enhanced if the State agencies obtain the architectural and engineering capacity to conduct detailed analysis of proposed plans and more proactively work with applicants on value-engineering as part of the formal review process. This capacity could be filled through task- or time-specific contracts synced with the application timeline or by adding a full- or part-time staff position (potentially shared among the relevant agencies).

*Complementary recommendations include:*

- Enhanced Collaboration and Information Sharing
- Cost-based Incentives

#### **CASE STUDY: Minnesota predictive cost model and associated evaluation**

In allocating State resources for affordable housing, the Minnesota Housing Finance Agency (MN Housing) has taken a proactive and multifaceted approach to cost-effectiveness. A central part of this approach is the use of its predictive cost model to evaluate costs. Developed in 2006, the model is used to compare costs proposed in funding applications with what the State “would expect for that development based on the Agency’s experience with similar projects and industry-wide standards.”<sup>30</sup>

The model is a critical tool for MN Housing’s formal assessment of cost reasonableness. Proposed developments that exceed the predicted costs by more than 25% must pursue a formal waiver that must be approved by MN Housing’s board,<sup>31</sup> which is a level of approval that may not be practical in Vermont given the State’s multi-agency structure. This formal threshold is supplemented by a MN Housing staff review of cost reasonableness, based on the professional architectural and underwriting expertise. This review applies to all proposals, including those under the 25% threshold.

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<sup>30</sup> Minnesota Housing Finance Agency. “Cost Containment Report 2018,” 2018.

<http://www.mnhousing.gov/sites/Satellite?c=Page&cid=1358904870907&d=Touch&pagename=External%2FPage%2FEXTStandardLayout>. Page 2.

<sup>31</sup> Minnesota Housing Finance Agency, Page 7.

The predictive cost model's parameters are developed through a multivariate regression analysis of inflation-adjusted costs and characteristics of development of the State's portfolio, which is also benchmarked against industry-wide data.<sup>32</sup> This analysis includes:

- Activity type (e.g., new construction, extensive rehab, limited rehab)
- Building type (e.g., walkup, elevator, townhome)
- Special costs (historic preservation, environmental abatement, and supportive housing)
- Unit size (bedrooms per unit)
- Gross square footage
- Location within the State
- Year built
- Garage type
- Acquisition
- Financing

Given significant differences in the size of the rental portfolio that is the basis of the analysis, any similar effort in Vermont would likely need to utilize a less granular analysis for predictive costs. A Vermont-focused model could by necessity take a higher-level look at projects and/or adjust allowed variances based on the assumptions of the model. For example, if a more conservative guideline was adopted, the State could provide a wider margin for error before a detailed review is required, or vice versa.

The State's cost trajectory is likely influenced by MN Housing's wide-range of cost-focused activities (including a cost-focused innovation competition and a redesign of the application and funding processes), and not solely by the predictive cost model. However, during the last 15 years, the State's cost control efforts have been highly successful. From 2003-2017 (using three-year rolling averages to control for year-to-year variability), multifamily development costs in the State across all types of development remained relatively constant at \$200,000 per unit, after adjusting for construction cost inflation.<sup>33</sup> Of particular relevance to Vermont, Minnesota was able to accomplish this (adjusted) cost stability while adding new policy priorities associated with increased cost, adding a priority for permanent supportive housing, adopting a Green Communities Overlay, and strengthening priorities for location-efficiency.

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<sup>32</sup> Minnesota Housing Finance Agency, Page 5.

<sup>33</sup> Minnesota Housing Finance Agency, Page 5.

## Promote "next generation" solutions to factors that contribute to higher costs

*Addresses key cost drivers:*

- Labor and material costs are high and increasing.
- Vermont's policy priorities result in funding projects with higher cost profiles.
- The State funding process does not prioritize cost-related innovation and savings.

Vermont's affordable housing delivery system promotes high-quality, and in some cases "envelope pushing," achievement in a range of categories. However, given the limited number of projects built and developers active in the market, there is a steeper learning curve for identifying and adopting new and innovative practices.

To keep the State's push for excellence from resulting in cost increases that reduce the number of people that subsidies can serve, proactive steps are necessary to incubate such practices. The State can leverage the collaborative nature of its development sector to accelerate and potentially "scale up" new design techniques, materials, or systems that have the potential to produce sizable improvements in cost effectiveness.

The recommendation does not include specific innovations, but rather approaches for generating innovative development solutions as part of the affordable rental housing delivery system in Vermont. Methods for achieving innovation could include:

- Organizing innovation competitions and/or pilot programs, in partnership with philanthropic institutions, academic institutions, and/or other State agencies. Examples include the Lowering the Cost of Housing Design<sup>34</sup> and the Minnesota Challenge to Lower the Cost of Affordable Housing (see case study below).
- Facilitating information sharing through reports, issue-specific events and conferences, and/or design charrettes.
- Adding a recurring cost-efficiency track to State agency conferences.

Particularly pertinent topics to address may include:

- Green building/energy efficiency practices, particularly related to whole-building performance targets
- Mechanical systems
- Modular/manufactured/prefabrication techniques
- Value-engineering and efficient design practices
- Development team structure (enhanced construction management, design-build, turnkey, etc.)
- Community engagement/NIMBY

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<sup>34</sup> Deutsche Bank. "Winners of Affordable Housing Competition," August 2013. <https://www.db.com/usa/content/en/winners-of-affordable-housing-competition.html>.

- Enhanced collaboration in nonprofit sector (shared services, bulk purchasing, etc.)
- Use of community-serving real estate (public land, institutional land, faith-based partnerships, etc.)

Complementary recommendations include:

- Evaluate Costs and Benefits of State's Policy Priorities

#### **CASE STUDY: Using competitions and charrettes to address critical housing challenges**

In 2014, Minnesota Housing, the McKnight Foundation, Urban Land Institute-Minnesota/Regional Council of Mayors, and Enterprise Community Partners launched the Minnesota Challenge to Lower the Cost of Affordable Housing (MN Challenge). The two-phased “idea competition” offered \$100,000 in total awards for ideas to lower the cost of affordable multifamily delivery in the State. The University of Minnesota’s Center for Urban and Regional Affairs were selected as the winner, and as a result produced research and provided technical assistance to overcome barriers in the local regulatory and approval process. Upon completion of the initiative, the implementers published a report<sup>35</sup> that both summarized the substantive results/findings of the competition, as well as lessons to consider when trying to implement similar initiatives. Critical lessons learned included:

- Ensure that the initiative has the buy in from those that would need to implement (or approve regulatory flexibility to implement) innovative practices.
- Combine the idea competition with existing funding opportunities (for example, offering additional funding for innovative concepts as part of the LIHTC application review process) to generate additional interest and increase the likelihood of implementation.
- Focus on participants’ ability to implement, but create forums for capturing ideas from stakeholders without the capacity to move a proposal forward.
- Provide the opportunity for the public to provide feedback on innovative proposals as part of the selection process.
- Select the appropriate format for the specific goals that the organizers want to achieve. Competitions may generate broad ideas, but a RFP structure may be more beneficial if there is a more specific goal in mind.

Another approach to generating innovative ideas, particularly in the area of design, is to hold charrettes, which bring together a range of practitioners to collaboratively solve a difficult planning and/or development challenge. As an example, Enterprise Community Partners holds an annual Affordable Housing Design Leadership Institute, which brings together development practitioners and architects.<sup>36</sup> A portion of the Institute’s curriculum includes sessions where real project concepts are presented, challenges are described, and the group works collectively to try to find potential solutions.

<sup>35</sup> “The MN Challenge to Lower the Cost of Affordable Housing: Summary Report,” 2014.

<https://www.enterprisecommunity.org/resources/mn-challenge-lower-cost-affordable-housing-19831>.

<sup>36</sup> “Affordable Housing Design Leadership Institute Fact Sheet,” 2019.

[https://www.enterprisecommunity.org/sites/default/files/media-library/solutions-and-innovation/design/ahdli\\_2019\\_factsheet.pdf](https://www.enterprisecommunity.org/sites/default/files/media-library/solutions-and-innovation/design/ahdli_2019_factsheet.pdf)

## **More explicitly track costs and benefits of the State's top-tier policy priorities regularly**

*Addresses key cost drivers:*

- Vermont's policy priorities result in funding projects with higher cost profiles.
- The State funding process does not prioritize cost-related innovation and savings.

Though this research provides high-level estimates of the incremental costs associated with Vermont's primary policy priorities, data was limited, which prevented an assessment of costs of specific project characteristics (e.g., specific green building features.) In addition, this research was not able to include a comprehensive analysis of costs and benefits once longer-term operations are taken into account. Moving forward, the State should more explicitly track a) the extent to which intended goals are being achieved in practice; and b) whether the specific implementation details and requirements are the most efficient manner to achieve those goals.

An important step would be for the State to build out its existing Interagency Affordable Housing Database to include a more formal accounting of specific project characteristics (e.g., specific energy efficiency interventions, specific historic preservation investments) as well as data on longer-term operating expenses. Tracking such data can help establish or reinforce the value that affordable housing investment brings and create a "business case" for other entities to invest in affordable housing efforts.

Collecting additional data through the existing database may be sufficient to better report on the State's priorities. Additional research could provide more concrete evidence on the economic rationale for particular policy initiatives. Specific research initiatives could include:

- *Performance study for energy efficiency measures:* Ensure that the State funding processes are incentivizing thoughtful energy efficiency but are not necessarily pushing beyond what has been shown to deliver long-term cost savings. Evaluate long-term operating cost savings relative to the upfront costs of providing more enhanced energy efficiency options (e.g., Passive House). Evaluate opportunity costs of different approaches (i.e., concentrating resources in a smaller number of high-performing buildings vs. providing more modest improvements to a larger number of units). Use information to inform on-going efforts to update State energy codes and other energy efficiency initiatives in the State. VHCB and VHFA and others are currently conducting a cost-benefit analysis as they consider new energy efficiency standards in light of the State's updated Residential and Commercial Building Energy Standards.
- *Economic development impacts of historic rehab approach:* Establish the impact of downtown redevelopment initiatives on economic development and the local property tax base. Use findings to explore whether additional funding from the Agency of Commerce and Community Development should be made available to support affordable housing as an economic development strategy.

- *Health and social service impacts of housing with supportive services:* Addressing homelessness and the needs of extremely low-income households has been demonstrated to yield cross-sectoral social and budgetary benefits in a range of jurisdictions. The State should evaluate the impact of policies promoting housing with supportive services on State social services.

Complementary recommendations include:

- Promote Next Generation Solutions
- Cost Guidelines

### **Formalize collaboration and communication during the application/award process**

*Addresses key cost drivers:*

- The State funding process does not prioritize cost-related innovation and savings.
- Vermont’s policy priorities result in funding projects with higher cost profiles.

Vermont's affordable housing delivery system exhibits high levels of collaboration, particularly in terms of developing high-level policy priorities. There is also communication and information sharing across the funding agencies regarding development applications. However, communication about particular proposals tends to be informal and not systematized. Given that most applicants apply to multiple agencies for funding, enhancing coordination in the application and review process, particularly in the early stages, could facilitate more effective review of cost-effectiveness, provide more timely information to applicants, and potentially shorten the application phase. Coordinating the application review also can better align resources and ensure that savings requested by one agency are not offset by increased requests to another.

There are important reasons for maintaining separate decision-making processes among the major funding organizations, including ensuring sufficient State funding continues to flow to affordable housing programs. Rather, better coordinated information sharing and applicant review processes—not coordinated funding decisions, per se—can help making the State’s funding process more efficient and agencies better positioned to more actively consider costs in funding decisions.

State funding agencies should take a series of actions to formalize collaboration and communication during the allocation process. This *could* include a true combined application for most State resources. While the State technically maintains a common application, a wide range of stakeholders stated that this is common in name only, given the significant amount of supplementary information required by each agency. Some of this information is federally-required and outside of the control of the State agencies. However, a standard initial common application or letter of intent, rather than a full standard application, would be one way to achieve better

information sharing across agencies at the beginning of the funding cycles without turning to a complete combined application.

The common initial application or letter of intent would help the State funding agencies provide coordinated feedback to applicants early in the process. Regular information sharing across agencies and consistent communication to applicants—with each agency in possession of the same information about the other agencies’ priorities for the project—can send clear, early signals to applicants and can help avoid situations where projects are petitioning additional funding from a given agency during the process. The State agencies have been successful in this type of early coordinated communication. However, there are no formal processes in place to ensure that this type of intentional collaboration and information sharing occurs with each project application.<sup>37</sup> Therefore, the State affordable housing funding agencies should formalize and standardize a process for sharing information and communicating with applicants to be better able to provide productive feedback to applicants in a way that is consistent with the agencies’ different funding schedules.

A formal process for information sharing across the funding agencies is also essential for setting the cost guidelines described in the recommendation above and for each agency’s evaluation of projects based on these guidelines. Through a more formalized process, State agencies can discuss whether a specific project has design features or other characteristics that justify exceeding the cost guidelines, and determine which agency(ies) might be willing to provide additional subsidies to cover the cost if no offsetting changes are identified.

A formal information sharing process should include an intentional review of resource allocation procedures to identify opportunities to reduce the costs of layered financing and/or regulatory compliance. While not all resources are fungible, some funding sources may have overlapping eligibility and use criteria. If coordination is more formalized, the agencies may be able to allocate resources in a manner that eliminates a layer of financing—for example, instead of DHCD and VHCB each providing small gap awards to two separate projects, each could provide the full gap amount necessary to one of the projects, holding both developers “harmless” but potentially creating a marginal reduction in soft costs for each. This may require revision of allocation limits to accommodate. Resources with more stringent requirements can also be proactively targeted toward the projects on which they would have the least impact (see the following Case Study for examples).

Finally, as part of this more formalized coordinated process, the State agencies should also consider whether it is feasible or beneficial to adjust application timing, including revising the application/award timeline or establishing a procedure for out-of-cycle awards.

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<sup>37</sup> Staff across each of the agencies noted that cross-agency communication and coordination historically has been the result of long staff tenures and the resulting relationship development. Formalizing the coordination networks might not only improve efficiency in the application process but could be of benefit, more generally, to succession planning and maintaining institutional knowledge within the agencies.



Complementary recommendations include:

- Cost Guidelines
- Cost-based Incentives
- Combine Loan Closing Documents

**CASE STUDY: Coordinated resource allocation in the Washington, DC metropolitan region**

Though the District of Columbia and State of Vermont are radically different in terms of urban form and geographic scale, the two jurisdictions have some similarities in terms of affordable housing resource availability. Their relatively low population figures<sup>38</sup> result in allocations of 9% LIHTC at or around the minimum amount, constraining the amount of equity available in a given year. Also similar to Vermont, there are numerous government entities that provide financing for affordable housing development, including agencies that provide resources to enable developers to provide permanent supportive housing.

The District of Columbia publishes a Consolidated Request for Proposals<sup>39</sup> that includes four participating agencies and nine capital and operating subsidy sources.

**Figure 16. Resources provided through the District of Columbia Consolidated Request for Proposals<sup>40</sup>**

Subsidy Type	Agency	Resource
Capital	Department of Housing and Community Development	9% Low Income Housing Tax Credit
Capital (gap)	Department of Housing and Community Development	Housing Production Trust Fund (local) HOME Investment Partnership Program Community Development Block Grant National Housing Trust Fund
Capital subsidy	Department of Behavioral Health	Department of Behavioral Health Funds
Operating	DC Housing Authority	Local Rent Supplement Program Annual Contributions Contracts
Supportive Services	Department of Human Services	Supportive Services Funds

<sup>38</sup> According to 2018 US Census Bureau population estimates, Vermont had a population of 626,299 residents and the District of Columbia had 702,455 residents.

<sup>39</sup> District of Columbia Department of Housing and Community Development. 2019 Consolidated Request for Proposals for Affordable Housing Projects. June 28, 2019

<sup>40</sup> District of Columbia Department of Housing and Community Development. 2019 Consolidated Request for Proposals for Affordable Housing Projects. June 28, 2019

Though 4% LIHTC and tax exempt bond financing provided by the DC Housing Finance Agency are not included, the RFP does delineate a formal process for coordination in the event a development utilizing those sources seeks resources under this RFP.

DHCD takes the lead role in managing the RFP process and is the main provider of resources. The review process includes an interagency review panel. Though applicants indicate which sources of gap financing they would like the agency to consider, the reviewers automatically consider each applicant for all available resources. Developers can “opt out” of consideration for sources they are unwilling to accept.

Though no formal evaluation of cost savings associated with these specific allocation structures has been conducted to-date, existing literature and practitioner observations indicate that this type of approach is effective at promoting efficiency in the development process.

## **Approve design alternatives in high-cost scenarios**

*Addresses key cost drivers:*

- Labor and material costs are high and increasing.

For additive elements (including green building and historic) that could be subject to cost overruns (for example, material selection in historic context), the three State housing agencies should allow developers to submit upfront alternative designs, both of which would be bid out. The "mutually acceptable alternative" would be employed if the costs of "Plan A" exceed a predetermined threshold. This practice would allow for developers to strive for the State's most ambitious targets while reducing the likelihood that project-specific challenges lead costs to spiral out of control (and set higher-cost precedent for future projects).

Complementary recommendations include:

- Cost Guidelines

## **Cost Efficiency Recommendations: Higher Impact, Harder Implementation**

### **Create process for streamlined local approval of affordable housing developments**

*Addresses key cost drivers:*

- Locally-required fees and conditions add direct costs.
- Development must receive approval at multiple, often uncoordinated, levels.
- Vermont's affordable rental housing developments lack economies of scale.

Affordable housing developments often experience added cost resulting from the local review process, which can extend the development timeline, alter project characteristics such as height and density, and require additional project elements. The State's laws on Municipal and Regional Planning and Development<sup>41</sup> place limits on municipalities' ability to regulate certain uses, including State facilities, schools, and churches, among others. This section should be amended to include State-financed affordable housing development, which would allow such developments to proceed via the site plan review process, limit the range of issues germane for negotiation, and expedite the approval process.

### **Create a State-level board and/or appeals process to adjudicate/resolve local land use and entitlement challenges**

*Addresses key cost drivers:*

- Locally-required fees and conditions add direct costs.
- Development must receive approval at multiple, often uncoordinated, levels.
- Act 250 approvals can exacerbate other approval-related challenges.
- Infrastructure requirements can add costs, though may be necessary in rural areas.

Many cost drivers identified by practitioners were related to the local approval process and/or community opposition. Other states have created policy frameworks by which a state-level entity can either mediate disputes or override local policies when such policies have an exclusionary result. The State should establish a protocol by which developers can seek efficient resolution to disputes over local approvals. Such a process can be focused on specific issues/challenges (for example, as an arbiter ensuring that issues being debated are germane to legitimate land use powers); enforcing State-level policies (PUD processes), or something more comprehensive (as with Massachusetts' 40B policy, which provides a State-level opportunity to appeal local zoning decisions).

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<sup>41</sup> Title 24, Chapter 117, Section 4413, <https://legislature.vermont.gov/statutes/chapter/24/117>

## Identify opportunities to increase utilization of 4% LIHTC

*Addresses key cost drivers:*

- Vermont's affordable rental housing developments lack economies of scale.
- Fragmentation in the award of public subsidies can add complexities and cost.

Difficulty in achieving scale is a significant driver of per unit costs in Vermont. Though this is partially a result of market forces, it is also influenced by a lack of available subsidy resources. One available resource with extra capacity is the 4% LIHTC. This source is difficult to use effectively under current conditions given the substantially lower amount of equity generated by the credit, requiring additional gap resources. If the State places importance on improving the cost-effectiveness of the portfolio, rather than on reducing individual project costs, expanding State gap resources with the explicit purpose of using the 4% LIHTC would unlock additional non-State (LIHTC) resources, increase the number of units produced, and lower average per-unit costs across the portfolio. Expanding use of the 4% credit would not reduce overall public spending on affordable housing in the State.

This recommendation assumes that 9% LIHTC resources are used for projects most closely aligned to State policy priorities, with regulations for 4% LIHTCs aligned for more straightforward, less "envelope pushing" developments. Ancillary benefits can include mitigating barriers for smaller/rural developments to this source of capital and creating an opportunity for additional developers with specialties outside of those traditionally prioritized through the 9% credit (e.g., age-restricted housing) to access LIHTC resources.

In addition to increasing State gap resources, utilizing the 4% LIHTC in specific ways can create additional opportunities for economies of scale, several of which have been attempted in the past in Vermont:

- Use a 9% and 4% hybrid structure for larger-scale projects, to allow for larger-scale development in the markets that can accommodate larger developments.
- Explore a 4% LIHTC pooled credit/bond program: Research the feasibility of a pilot program that pools multiple smaller-scale developments into a single 4% LIHTC/bond transaction or other creative structures (as has been piloted in Pennsylvania and Georgia).
- Create a pilot for a larger assembly of scattered-site acquisition/rehabilitation units (as has been piloted in Illinois).
- Explore opportunities to use 4% credits to provide resources for the inclusion of additional affordable units in inclusionary (80/20) market-rate developments (i.e., mixed-income developments with a mix generally of 80% market-rate units and 20% affordable units in which market-rate units partially cross-subsidize affordable units).

## **Establish a reserve insurance program**

*Addresses key cost drivers:*

- Underwriting requirements lead to a substantial amount of resources tied up in project reserves.

While Vermont’s State-level policies on project-by-project reserve levels are in-line with industry standards, the largest-capacity developers may hold a significant amount of reserves across their portfolio. For high-capacity developers without a history of property management challenges, holding substantial amounts of effectively idle capital in operating reserves represents an “opportunity cost.” To address this issue, the three State housing agencies should explore the feasibility/utility of creating an insurance or guarantee program that reduces the amount of project-level reserves held by eligible developers.

Creating a financial product of this nature would require an initial State-level outlay of capital for program design, as well as the resources necessary to create the financial “backstop” that maintains investor confidence, which is especially important in the context of projects with LIHTC or State tax credit equity. There are multiple structures for program design, such as an insurance product (with or without an on-going premium and/or a “deductible” to protect the State from first loss) or a line of credit with an access fee. Any program should be actuarially-sound; the intent would be to improve liquidity while providing a hedge against unforeseeable circumstances, not to put the State in a role of frequently covering operating losses.

A reserve insurance program could allow developers to reduce upfront costs (and thus free up funds for additional units). Alternatively, resources saved can be used to boost developer capacity (see following case study).

## **CASE STUDY: Massachusetts Reserve Assurance Program**

The Massachusetts Reserve Assurance Program (Housing RAP) was initially established by The Boston Foundation and the Massachusetts Housing Partnership (MHP) to reduce the amount of capitalized operating reserves held in portfolio and boost developer capacity. Nonprofit developers with an MHP first mortgage can receive a credit enhancement to replace 80% (up to a maximum of \$500,000) of investor-required reserves.<sup>42</sup> The first five developments to access this program freed an aggregate amount of \$1.2 million in cash.<sup>43</sup> The program has expanded since that time from an initial focus on new developments to include existing projects as well.

Though this type of program could be used to reduce upfront TDC, the specific intent of Housing RAP is to boost developer capacity and liquidity. For new construction, developers are able to use the program to reduce the deferred portion of the developer fee and/or cover unanticipated construction cost overruns or other unanticipated costs.<sup>44</sup> Existing properties can draw down cash-funded reserves for predevelopment or organizational capacity building. Other entities considering establishing a similar program could consider other objectives and uses of the freed-up capital.

In September 2019, the latest project to utilize Housing RAP was opened in Roxbury, MA. Urban Edge received a \$259,000 line of credit from MHP for the Walker Park Apartments, a 44 unit new construction development.<sup>45</sup>

Housing RAP required \$6 million to establish and capitalize, though further analysis would need to be conducted to determine the amounts necessary to establish a similar program in Vermont, given differences in market type and project scale.<sup>46</sup>

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<sup>42</sup> Massachusetts Housing Partnership. "Loan Programs." Accessed October 16, 2019. <https://www.mhp.net/rental-financing/loan-products>.

<sup>43</sup> Massachusetts Housing Partnership. "RAP Program Now Available for Existing Tax Credit Properties," August 18, 2014. <https://www.mhp.net/news/2014/rap-program-now-available-for-existing-tax-credit-properties>.

<sup>44</sup> Massachusetts Housing Partnership. "RAP Program Now Available for Existing Tax Credit Properties," August 18, 2014. <https://www.mhp.net/news/2014/rap-program-now-available-for-existing-tax-credit-properties>.

<sup>45</sup> Massachusetts Housing Partnership. "MHP Supports 2 Urban Edge Efforts in Roxbury," September 19, 2019. <https://www.mhp.net/news/2019/mhp-supports-2-urban-edge-housing-efforts-in-roxbury>.

<sup>46</sup> Massachusetts Housing Partnership. "RAP Program Now Available for Existing Tax Credit Properties," August 18, 2014. <https://www.mhp.net/news/2014/rap-program-now-available-for-existing-tax-credit-properties>.

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## **Cost Efficiency Recommendations: Less Impact, Easier Implementation**

### **Provide multi-year pre-approval for contractors/subs competing for affordable housing projects**

*Addresses key cost drivers:*

- Labor and material costs are high and increasing.

Given the shortage of contractors/subs bidding for work in Vermont, decreasing the burden of bidding could lower the cost of labor. The three State housing agencies should consider providing a State-level assessment of overall capacity and pre-qualification of contractors/subs interested in competing for work on affordable housing developments. This could reduce the burden associated with each RFP submission. The RFP responses of pre-qualified contractors/subs could then focus solely on development- or RFP-specific issues, streamlining the process for both affordable housing developers and potential subcontractors. This assessment protocol and prequalification should last for a defined period of time, preferably for multiple years.

### **Study lifecycle and resyndication/recapitalization costs**

*Addresses key cost drivers:*

- Vermont's policy priorities result in funding projects with higher cost profiles.

Permanent affordability is a foundational aspect of Vermont's affordable housing delivery system. The research team concurs with the consensus among practitioners that maintaining permanent affordability is a worthwhile investment with the potential to yield long-term savings. As the State considers new policies to promote cost effectiveness, it is imperative to ensure that any guidelines reflect the importance of considering lifecycle costs and the investments that promote effective permanent stewardship. As such, the State should evaluate upfront measures to facilitate permanent stewardship, ongoing operating and maintenance expenditures, and recapitalization/resyndication costs to appropriately calibrate these guidelines and inform any other policies that impact building quality and reserve levels. Collecting and monitoring these project outcomes can also inform information-sharing activities designed to promote best practices among developers for effective permanent stewardship.

Complementary recommendations include:

- Cost Guidelines
- Evaluate Costs and Benefits
- Promote Next Generation Solutions

## **Create alternate fee structures**

*Addresses key cost drivers:*

- The State funding process does not prioritize cost-related innovation and savings.

Consistent with NCSHA’s recommended practices, State underwriting guidelines can be amended to reduce the number of fees that are based on a percentage of total development costs. While the research did not uncover examples of practitioners increasing costs or failing to limit cost increases because of TDC-based fee structures, alternate approaches to setting fees can create added incentives for innovative cost-control techniques. The three State housing agencies should also explore new and/or potentially innovative ways to use fee structures to incentivize cost-effectiveness, such as developer fee “bonuses” or architectural and engineering structures that facilitate value engineering. However, any reform effort, particularly related to developer fees, should be carefully calculated to ensure that there are not unintended consequences that could jeopardize the fiscal sustainability of the nonprofit developer network.

## **Cost Efficiency Recommendations: Less Impact, Harder Implementation**

### **Include cost-effectiveness as a criteria in the QAP and other funding prioritization processes**

*Addresses key cost drivers:*

- Vermont’s policy priorities result in funding projects with higher cost profiles.
- The State funding process does not prioritize cost-related innovation and savings

The three State housing agencies should include a cost-based incentive with a value (i.e., number of "checkmarks" or “points”) on par with (but not above) the highest value policy priorities as part of the evaluation of funding applications, including the QAP. An appropriately-weighted cost-based incentive can create an opportunity for lower-cost projects to be more competitive without creating a "race to the bottom." Adding consideration of costs should increase the likelihood that higher-cost projects (i.e., those that do not receive the cost-related points) are demonstrating other exceptional properties. Setting up a competitive structure can also create an incentive for marginal cost improvements for projects that are not near the guidelines recommended above.

Though there are many possibilities for structuring such an incentive, one promising approach is to rank applicants in a given round by costs, with the most cost-effective receiving the most "checks" or “points.” To control for natural cost differences by geography and/or project type, applicants could be ranked by category. If the number of annual applications is insufficient for a separate



ranking, all applications can be ranked together with pre-determined adjustments to actual TDC to control for project characteristics.

The utility of a cost-effectiveness criterion depends on the competitiveness of the application pool each year. In an environment in which a significant proportion of applications receive funding, the incentive created by the criteria may be marginal. Much of the benefit of this recommendation could be replicated through robust and effective implementation of the cost guidelines detailed above. However, in a competitive environment, there will generally be projects on the borderline of receiving funding. This incentive may have minimal impact on the highest-rated projects. On the other hand, developers who have a sense that their positioning within the application pool is less certain would have a significant incentive to find cost-savings, rather than risk waiting another year to receive funding.

Complementary recommendations include:

- Enhance Collaboration and Information Sharing.
- Cost Guidelines

## **Consider impact on housing costs when adopting other State regulations**

*Addresses key cost drivers:*

- Development must receive approval at multiple, often uncoordinated, levels.
- Act 250 approvals can exacerbate other approval-related challenges.
- Infrastructure requirements can add costs, though may be necessary in rural areas.

Housing costs are influenced by policy changes outside the direct purview of the State's core housing agencies. These rules and regulations may have unintended impacts on housing costs and affordability. Proactive consideration of the impact of such changes can help mitigate this risk of new policies and lead to the identification of outdated policies that should be removed or amended.

To facilitate effective participation in policymaking efforts, the State could consider creating a cross-agency committee focused on building efficiency and removing regulatory barriers to cost-effective development. Relevant topics can include fire codes, accessibility, and energy.

Complementary recommendations include:

- Enhance Collaboration and Information Sharing

## **Amend State's existing historic tax credit programs to provide additional resources for affordable housing developments that are not subject to stricter federal standards**

*Addresses key cost drivers:*

- Vermont's policy priorities result in funding projects with higher cost profiles.

State agencies can work to amend existing State historic preservation policies or establish a new program to provide resources for affordable housing development with design standards less rigorous than the federal standard. State-level program changes could be focused on allowing affordable housing developers to meet the intent of the three State housing agencies' downtown historic rehab goals without onerous cost escalation by creating a "historic rehabilitation light" approach. Specific standards could focus on the preservation of the building while avoiding specific requirements that lead to significant cost escalation.

Complementary recommendations include:

- Design Alternatives in High-cost Scenarios

## **Combine loan closing documents**

*Addresses key cost drivers:*

- Fragmentation in the award of public subsidies can add complexities and cost.

Each funding source generally has its own loan closing documents. Creating a combined loan closing document could reduce legal and closing cost expenses and shorten the timeline for closing, with potential spillover effects on holding costs. Precedent for this recommendation is found in Minnesota and Massachusetts. Officials in the latter estimate that the MassDocs system results in savings of \$10,000 per subordinate loan in each development.<sup>47</sup> The three State housing agencies should engage with internal counsel to determine whether there are opportunities to better coordinate legal documentation and reduce soft costs. If so, the agencies should negotiate among major public (and potentially philanthropic) funders to create a single document format that can be utilized regardless of the combination of funding sources.

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<sup>47</sup> Minnesota Housing Finance Agency, page 12.

## Additional Opportunities for Engagement

In addition to the core recommendations, the research team identified additional potential actions that are either more focused on the general development climate (as opposed to affordable housing specifically) or are not within the direct purview of the three State housing agencies. Though implementing these actions may rely on other stakeholders, the three State housing agencies should consider whether there are “leverage points” or other opportunities to advance these concepts.

### Federal Outreach Initiatives

- *Pursue changes to the historic rehabilitation tax credit program that would loosen certain design requirements for affordable housing developments* to reduce hard costs. Examples can include allowing visually similar but non-original windows and other exterior components, and greater flexibility related to interior circulation and material selection.
- *Engage with the Federal Home Loan Bank of Boston to pursue reforms to the timeline for award of Affordable Housing Program funding*, better aligning the funding process with that of the State. This coordination could reduce the costs associated with a lengthier development timeline and/or project delays associated with assembling funding, although it would impact the five other New England states.
- *Engage with partners to advocate for additional Federal housing resources*, such as an expanding and improving the LIHTC program and other appropriated resources such as HOME and CDBG.

### State Outreach Initiatives

- *Pursue more cost-effective interpretations of historic tax credit rules*, to pursue the same potential savings described above and reduce the cost of delays resulting from approval or waiver processes.
- *Coordinate State level permitting/review process*, in order to streamline the approval process and reduce costs associated with a longer development timeline.
- *Accelerate investment in workforce/trade development programs and consider connecting such programs with affordable housing resident services as a way of increasing this workforce*, which could lower costs by growing an industry that could create more responses to bids. Greater labor availability can help contain labor costs and reduce the overall cost of delivering housing.

## Local Outreach Initiatives

- *Continue—and if necessary, expand upon—the Zoning for Great Neighborhoods initiative and provide resources and technical assistance for local code streamlining, with a focus on reducing critical barriers related to height, density, parking and fees. Zoning requirements add to costs both in the design and construction side, as well as by creating longer development timelines. Modifying site requirements can lower costs and make it easier to deliver affordable housing more cost effectively.*
- *Expand Act 250 exemptions for housing in infill locations served by existing infrastructure, which could reduce the costs associated with a longer approval timeline. The ability to take advantage of an Act 250 exemption creates more certainty in the development approval process and can allow developers to more cost-effectively build affordable housing in areas well-served by water and sewer.*
- *Reform codes to allow developers to utilize transportation demand management (TDM) or alternative transportation investments in exchange for parking reductions to reduce the costs associated with providing parking spaces.*

## Developer Outreach Initiatives

- *Invest in early-stage value-engineering work to avoid the delays and increased costs associated with redesigns later in the development process.*
- *Help more developers explore a range of development team structures, including Construction Management and design-build, to better match the structure with the needs of the individual project.*
- *Expand "turnkey" projects and/or private-nonprofit partnerships where there can be proven cost savings as a result of this model.*
- *Work with developers to identify and implement transportation demand management/alternative transportation investment best practices, in order to reduce the direct and opportunity costs associated with providing excess parking spaces.*
- *Facilitate bulk purchases, direct buy, and shared services, which could enable smaller and nonprofit developers to benefit from economies of scale.*

# APPENDIX

## Inventory of Resources Reviewed

Bluestone, Barry, James Huessy, Eleanor White, Charles Eisenberg, and Tim Davis. "The Greater Boston Housing Report Card 2015: The Housing Cost Conundrum." Boston, MA: November 2015, n.d. <http://www.northeastern.edu/dukakiscenter/housing/gbhousingreportcard/>.

California Department of Housing and Community Development, California Tax Credit Allocation Committee, California Housing Finance Agency, and California Debt Limit Allocation Committee. "Affordable Housing Cost Study: Analysis of the Factors That Influence the Cost of Building Multifamily Affordable Housing in California." California, October 2014. <http://www.hcd.ca.gov/hpd/docs/FinalAffordableHousingCostStudyReport-with-coverv2.pdf>.

Kimura, Donna, and Christine Serlin. "Where Credit Is Due: HFAs Have Found Creative Ways to Magnify the Impact of Low-Income Housing Tax Credits." Affordable Housing Finance, June 2, 2016. [http://www.housingfinance.com/policy-legislation/where-credit-is-due\\_o](http://www.housingfinance.com/policy-legislation/where-credit-is-due_o).

Minnesota Housing Finance Agency. "Cost Containment Report 2018," 2018. <http://www.mnhousing.gov/sites/Satellite?c=Page&cid=1358904870907&d=Touch&pagename=External%2FPage%2FEXTStandardLayout>.

Jakabovics, Andrew, Lynn M. Ross, Molly Simpson, and Michael A. Spotts. "Bending the Cost Curve: Solutions to Expand the Supply of Affordable Rentals." Washington, DC: Enterprise Community Partners & ULI Terwilliger Center for Housing, January 2014. <http://www.enterprisecommunity.org/resources/bending-cost-curve-solutions-expand-supply-affordable-rentals-13127>.

Kissam, Ariane, Polly Nichol, and Gus Seeling. "VHCB Work on Cost; Staff Memo to Board," December 4, 2012.

Lubell, Jeffrey and Sarah Wolff. 2018. Variation in Development Costs for LIHTC Projects. Rockville, MD: Abt Associates, prepared for National Council of State Housing Agencies.

National Council of State Housing Agencies. "Development Costs and Cost Drivers in the Housing Credit Program." NCSHA, September 7, 2018. <https://www.ncsha.org/resource/cost-study/>.

Spotts, Michael A. "Giving Due Credit: Balancing Priorities in State Low-Income Housing Tax Credit Allocation Policies." Washington, DC: Enterprise Community Partners, June 2016. <http://www.enterprisecommunity.org/resources/giving-due-credit-balancing-priorities-State-low-income-housing-tax-credit-allocation?ID=0101093>.

U. S. Government Accountability Office. "Low-Income Housing Tax Credit: Improved Data and Oversight Would Strengthen Cost Assessment and Fraud Risk Management," no. GAO-18-637 (September 18, 2018). <https://www.gao.gov/products/GAO-18-637>.

University of Minnesota Center for Urban and Regional Affairs, Housing Justice Center, and Becker Consulting. "Best Practices to Reduce the Cost of Affordable Housing." Minneapolis, MN, August 2015.

Urban Renovation Consultants, Inc. "A Comparison of Costs in Vermont Multifamily Development to U.S., Northeast states & Vermont Case Studies: A Selected Review." February 12, 2008.

Weeds, Roger. "Affordable Housing Cost Study." Olympia, WA: Washington State Department of Commerce, September 2009. <http://www.commerce.wa.gov/Documents/HTF-Cost-Study-Report-Final.pdf>.