

Strengthening Vermont's Economy by Integrating Transportation and Smart Growth Policy

Final Report

September 2013



G R E S H A M
S M I T H A N D
P A R T N E R S



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Any error and all interpretations are the responsibility of Smart Growth America. Please direct questions about this report to Roger Millar, PE, AICP; Vice President, Smart Growth America's Leadership Institute: rmillar@smartgrowthamerica.org, 406.544.1963.

Strengthening Vermont's Economy by Integrating Transportation and Smart Growth Policy

Final Report

Executive Summary

The Vermont Agency of Transportation (VTrans) and Smart Growth America partnered to demonstrate that policies and programs at VTrans that connect smart growth and transportation will strengthen the state's economy and support the Agency's vision for a safe, efficient, and multimodal transportation system. A Project Stakeholder Group, consisting of a broad spectrum of representatives from the public and private sectors, served as the steering committee for the project and met three times during the course of the study. Based on the technical analysis by the project team and guidance from the Project Stakeholder Group, the project resulted in the following key findings and recommend strategies.

Key Findings

- a. Vermont starts from a position of enormous strength in terms of smart growth policies and programs. The challenge for

the state is really one of maintaining a leadership position and continuing to innovate in order to implement more effectively the state's many smart growth transportation and land use policies.

- b. While state statute anticipates that the bulk of land use planning and implementation will occur at the municipal level, state law also establishes the underlying smart growth framework for statewide land use goals and state investments.
- c. Smart growth transportation strategies offer a wide range of transportation, economic, fiscal, community, and environmental benefits, and VTrans has a full set of policies and programs in place to implement smart growth transportation.
- d. Because transportation investments alter regional development patterns, location efficiencies, and corresponding fiscal impacts, coordinating state



... evaluation of alternative strategies to coordinate, measure, and incentive

transportation spending and regional and local plans is critical and requires strong levels of interagency collaboration.

- e. VTrans spending reflects a high priority on preserving and maintaining the existing transportation system across all modes – a smart growth “fix-it-first” approach.

Recommended Strategies

The evaluation of alternative strategies focused on better ways to coordinate, measure, and incentivize public and private actions consistent with statewide goals, policies, and programs. The basic premise has been that if the performance measures, standards, and guidelines that shape plans, programs, and projects fully complement state and VTrans goals and objectives, then so will the outcomes. The recommended strategies are:

- 1. Strengthen and expand the VTrans corridor management planning program.
- 2. Revise VTrans guidance and procedures for identifying, defining, and prioritizing

transportation projects to incorporate and measure consistency with state land use, economic development, environmental, energy, and community development goals.

- 3. Consolidate and update VTrans design standards to support multimodal objectives.
- 4. Improve VTrans review and participation under Act 250 and the Section 1111 access permitting process to encourage development in state designated community centers and improve consistency with regional and local plans and state land use planning law.
- 5. Identify new policies and programs to support private sector development in state designated community centers and consistent with regional and local plans.
- 6. Document the smart growth benefits and costs of VTrans policies, programs, and investments.

A set of implementation actions accompany the recommended strategies (Table 3, page 19).

Together, the strategies and actions identify improvements that build on Vermont’s strong track record in smart growth and address the following important question – ***Working with its partners, how can VTrans best support state designated community centers and regional and local plans within the constraints of its overall budget?***



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Strengthening Vermont's Economy by Integrating Transportation and Smart Growth Policy

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Introduction

Smart growth policies and programs play a critical role in generating transportation, economic, fiscal, community, and environmental benefits for states and communities of all sizes. The purpose of this project was to demonstrate that policies and programs at the Vermont Agency of Transportation (VTrans) that connect smart growth and transportation will strengthen the state's economy and support the Agency's vision for a safe, efficient, and multimodal transportation system. The project followed a three-part process:

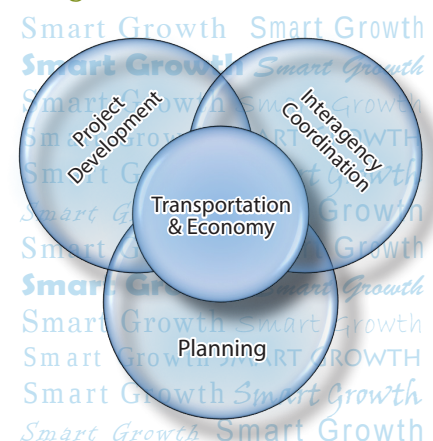
1. Evaluate existing VTrans smart growth oriented transportation policies and programs and identify strengths and opportunities for improvement;
2. Based on best practices, explore alternative strategies for improving the connection between smart growth, transportation, economic development, and fiscal impacts; and
3. Identify and recommend alternative policy and program strategies appropriate for Vermont.

A Project Stakeholder Group (PSG), consisting of a broad spectrum of representatives from the public and private sectors, served as the steering committee for the project and met three times over the course of the project in conjunction with each phase. The PSG provided invaluable leadership, insights, and recommendations throughout the project, culminating in the strategies and actions presented here.

The report begins with a brief overview of the key findings from the study's first two phases, and then details the recommended alternatives in the areas of planning, project development, and interagency coordination. Planning, project development, and interagency coordination are the three fundamental ways in which the State of Vermont and VTrans can leverage smart growth policies and programs more to achieve statewide economic development, transportation, and community goals. Accompanying the recommended alternatives are implementation strategies, as well as performance measures that complement the implementation actions.

Vermont starts from a position of enormous strength in terms of smart growth policies and programs. The challenge for the state is really one of maintaining a leadership position and continuing to innovate in order to implement more effectively the state's many smart growth transportation and land use policies. Within the limits of this study, the recommended alternative strategies identify improvements that build on Vermont's strong track record in smart growth while providing additional tools to help shape future growth across the state for the benefit of citizens and visitors alike.

Figure 1. Leveraging Smart Growth Policies and Programs



...growth development patterns on the concept of “location efficiency”



1. Key Findings to Date

As discussed by participants at the final Project Stakeholder Group (PSG) meeting, smart growth development patterns and transportation systems hinge on the concept of “location efficiency” and its many economic, social, and environmental benefits. One definition of smart growth is:

- Smart growth means building urban, suburban, and rural communities with housing and transportation choices near jobs, shops, and schools. This approach supports local economies and protects the environment. (Smart Growth America)

A corresponding definition of location efficiency is:

- While the concept of energy efficiency is a familiar term, locations can be efficient too. Compact neighborhoods with an interconnected street network, access to transit, mixed land uses, and

concentration of retail and services are highly efficient communities. When brought together, these elements enable an efficiency of scale. (Center for Neighborhood Technology)

Smart growth principles and associated smart growth transportation policies, then, offer tremendous opportunities to deliver direct transportation benefits such as travel time and travel cost savings as well as a host of economic, social, and environmental benefits. Table 1 summarizes nationally recognized smart growth principles and smart growth transportation policies considered during this project.

Within the broader smart growth framework, four key findings from the study’s initial phases set the stage for the list of recommended alternative policy and program strategies. These findings include:

1. While state statute anticipates that the bulk of land use planning and implementation will occur at the municipal level, state law also establishes the underlying smart growth framework for statewide

and transportation systems hinge "ency" ...

Table 1. Smart Growth Principles and Transportation Policies

Smart Growth Principles		
	1. Create a range of housing opportunities and choices	6. Mix land uses
	2. Create walkable neighborhoods	7. Preserve open space, farmland, natural beauty, and critical environmental areas
	3. Encourage community and stakeholder collaboration	8. Provide a variety of transportation choices
	4. Foster distinctive, attractive communities with a strong sense of place	9. Strengthen and direct development toward existing communities
	5. Make development decisions predictable, fair, and cost-effective	10. Take advantage of compact building design
Smart Growth Transportation Policies		
	1. Adopt an overall strategic plan	9. Pursue more flexible application of residential street standards
	2. Adopt a "fix-it-first" approach	10. Manage for a reduction in vehicle miles of travel
	3. Adopt a context-sensitive approach for all state transportation projects	11. Encourage transit-oriented development
	4. Take advantage of flexible federal transportation funding	12. Adopt a broad or regional approach to mitigation planning
	5. Adopt a "Complete Streets" policy	13. Support transportation demand management
	6. Encourage connected street networks	14. Revise transportation modeling methods
	7. Develop an access management program	
	8. Reform level-of-service standards	

Source: Smart Growth America

. . . VTrans has a full set of pol implement smart growth transpo



land use goals and state investments.

- Vermont statute establishes the goal, “to plan development so as to maintain the historic settlement pattern of compact village and urban centers separated by rural countryside.” (24 V.S.A Chapter 117)
- Vermont statute establishes that all plans required of state agencies and the measures implementing those plans shall be consistent with the state planning goals. (24 V.S.A Chapter 117)
- Vermont statute establishes the importance of giving “the highest priority to facilitating development” in state designated community centers. (24 V.S.A Chapter 76A) State designated community centers include the following Department of Housing and Community Development designation programs: Downtowns, Growth Centers, New

Town Centers, Vermont Neighborhoods, and Village Centers.

- State energy policy calls for measures that will meet, “Vermont’s energy service needs in accordance with the principles of least cost integrated planning,” including transportation energy use. (30 V.S.A. Chapter 5)
2. Smart growth transportation strategies offer a wide range of transportation, economic, fiscal, community, and environmental benefits, and VTrans has a full set of policies and programs in place to implement smart growth transportation.
- Transportation benefits include increased safety, improved maintenance, more transportation choices, and greater system efficiency.
 - Economic and fiscal benefits include stronger urban and village centers, expanded intermodal centers, increased cost effectiveness, and reduced

Policies and programs in place to transportation ...

- household transportation costs.
 - Community and environmental benefits include increased equity across different age groups and income levels, reduced energy use, greenhouse gas emissions, and air pollution, and greater resiliency to natural and man made emergency events.
3. The economic impact of transportation investments has become more local with the completion of major transportation systems such as the interstate, and generally has a limited effect on overall regional growth. Transportation investments do, however, alter regional development patterns, the ability to maximize location efficiencies, and corresponding fiscal impacts. This trend places a greater emphasis on the interaction between state transportation spending and regional and local plans, comprehensive performance measures, and interagency coordination.
- Economic development in Vermont focuses on small business, industry clusters, quality of life, and tourism which complements state land planning goals and the trend toward more locally oriented, place making transportation investments.
 - Through the Transportation Planning Initiative (TPI) process, VTrans and the regional planning commissions have a mechanism in place to support and implement regional and local plans. Ensuring that regional and local plans are consistent, however, with state planning statutes, specifically Section 4302 of 24 V.S.A. Chapter 117, is a necessary prerequisite for relying on those plans as the basis for achieving state growth and development goals. Importantly, the Agency of Commerce and Community



... strong need for an organizing the various smart growth initiatives

Development (ACCD) is currently undertaking such an inventory of local and regional plans.

- Other state agencies, including ACCD, the Agency of Natural Resources (ANR), the Public Service Department (PSD), and the Department of Health (VDH), also have important programs and policies that support and implement regional and local growth plans.

4. VTrans spending reflects a high priority on preserving and maintaining the existing transportation system across all modes – a smart growth “fix-it-first” approach.
- Opportunities to optimize both maintenance and preservation spending and new capital and program investments include best practices in comprehensive performance measures, joint planning initiatives, competitive grant programs, new pricing strategies, and

coordinated interagency investments.

The four key findings build on the technical analysis and the work of the PSG and its careful consideration of the relationship between smart growth strategies and transportation policies and programs. Taken together, the

findings serve as the basis for the recommendations and raise the following important question – *Working with its partners, how can VTrans best support state designated community centers and regional and local plans within the constraints of its overall budget?*

Figure 2. Foundation for State Investments



strategy that focuses and directs /es ...

2. Recommended Alternatives

An overriding theme throughout the study and the Project Stakeholder Group meetings has been the strength of Vermont's smart growth framework and the desire to make it more effective – in terms of the state's economy, the environment, and its communities. To achieve the desired improvements, the evaluation of alternative strategies has focused on better ways to coordinate, measure, and incentivize public and private actions consistent with statewide goals, policies, and programs. The basic premise has been that if the performance measures, standards, and guidelines that shape plans, programs, and projects fully complement state and VTrans goals and objectives, then so will the outcomes.

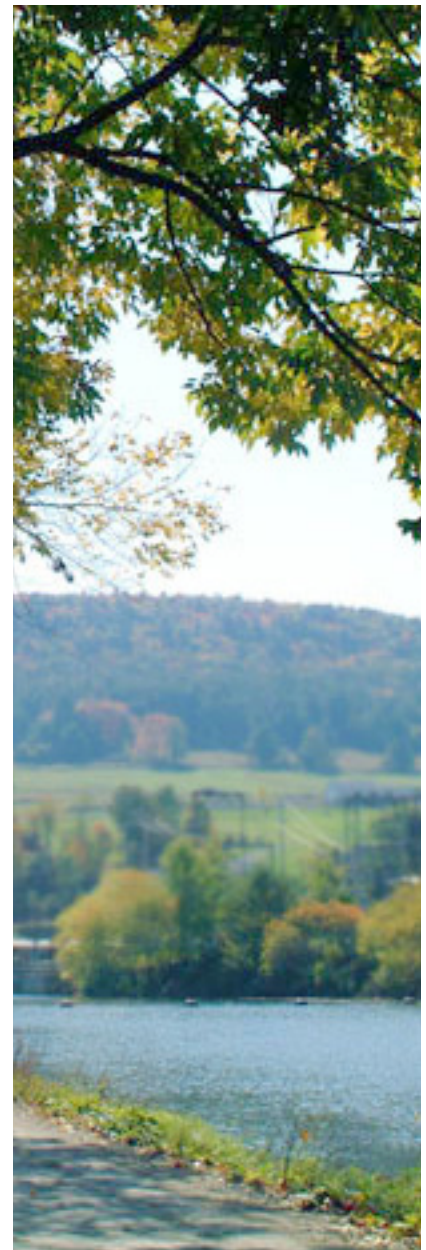
The following sections discuss the recommended alternatives under the broader headings of planning, project development, and interagency coordination. In turn, the alternatives address the critical question identified

in the key findings – *Working with its partners, how can VTrans best support state designated community centers and regional and local plans within the constraints of its overall budget?*

Planning

Because VTrans has a full range of existing policies and programs advancing smart growth, from complete streets to access management and many more, a consistent challenge is to make them operational and effective on a regular basis, in a variety of contexts, and at multiple scales. In effect, there is a strong need for an organizing strategy that focuses and directs the various smart growth initiatives beginning in the planning process. From VTrans own work and experience and national best practices, corridor management planning is increasingly viewed as such an organizing strategy.

While traditional transportation systems level planning identifies needs at a high level and subsequent corridor and project planning fleshes out alternatives in response, corridor management planning affords



...this recommended strategy and an essential role in identifying and

stakeholders the opportunity to take a more comprehensive and long-term perspective on how a transportation corridor functions within a community. Corridor management planning typically includes the following elements:

- Land use
- Environment
- Economic development
- Multimodal transportation
- Roadway design
- Access management
- Traffic systems management and operations

RECOMMENDATION #1: Strengthen and expand the VTrans corridor management planning program

Since 2005, VTrans has pursued corridor management planning in collaboration with regional planning commissions, municipalities, and other stakeholders, and has completed several corridor management plans. This recommendation seeks to strengthen and expand the agency's corridor management planning program by introducing new implementation tools and interagency partnerships. Following are specific actions.

Table 3 (page 19) describes the implementation framework for both actions.

- a. Review and update the VTrans Corridor Management Handbook based on lessons learned from the current corridor management planning process and to reinforce consistency with smart growth principles and transportation policies, including (1) directing development toward existing communities, (2) developing tools and methods for evaluating resiliency, (3) implementing a mobility based, transportation impact fee program, (4) supporting pedestrian, bicycle and transit oriented development and pedestrian, bicycle, and transit infrastructure, (5) encouraging connected street networks, and (6) ensuring that demand management techniques are fully considered.
- b. Develop an interagency competitive planning grant program among VTrans, ACCD, ANR, PSD, VDH, and other interested agencies to undertake integrated corridor

management plans and to support implementation of corridor management plan recommendations addressing local transportation systems/ street networks, land use policy, land development regulations, impact fees, economic development, water/wastewater systems, energy supply, and public health.

The Oregon Department of Transportation has a quick response program that, "assists local governments with an immediate need for design assistance with an imminent development, with the goal of helping communities create compact, pedestrian-friendly, and livable neighborhoods and activity centers."

and the associated actions can play and prioritizing ...

It is important to emphasize that this recommended strategy and the associated actions can play an essential role in identifying and prioritizing smart growth transportation projects in advance of the formal project development process. By stressing the importance of state land use goals and state designated community centers, corridor management planning can result in preliminary project purpose and need statements that clearly direct development where it is intended.

Project Development

In a more general sense, VTrans helps shape projects that originate from three basic sources: state initiated projects, regional and

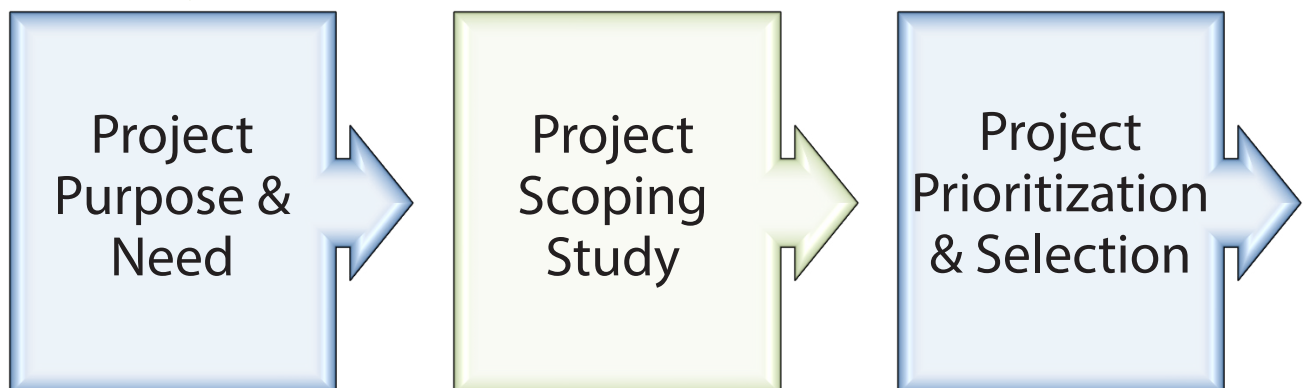
local transportation needs on the state system, and transportation improvements related to private sector development through the Act 250 process and the Section 1111 access permitting process. Each of these types of projects and project development processes offers opportunities for VTrans to increase its support for state designated community centers and regional and local plans within the constraints of its overall budget.

For proposed public sector improvements (state, regional, and local), key decision points in the project development process are (a) the project's purpose and need statement, (b) the project scoping study that evaluates

alternatives, and finally, (c) project prioritization and selection leading to funding for design and ultimately construction. The first two decision points help define the project while the third stage determines the importance of the project relative to competing needs. The following recommendation and actions identify opportunities to strengthen the connection between smart growth principles and policies at each of these decision points.

RECOMMENDATION #2: Revise VTrans guidance and procedures for identifying, defining, and prioritizing transportation projects to incorporate and measure consistency with

Figure 3. Key Decision Points



... the opportunity remains to guidance and procedures ...



state land use, economic development, environmental, energy, and community development goals.

Current VTrans project development guidance clearly states that when drafting a purpose and need statement, “It is of critical importance that future planned land uses be understood and the town’s and region’s goals for growth, protection of natural and historic resources, and future transportation facilities be acknowledged.” As discussed earlier, though, an important initial step is ensuring that regional and local plans are consistent with state planning statutes, specifically Section 4302 of 24 V.S.A. Chapter 117. Similarly, existing VTrans project prioritization factors for different asset classes assign points to regional priorities and, in some cases, downtown designation. In both cases, the opportunity remains to develop the next generation of guidance and procedures that will move project outcomes closer to established state law, policies, and goals. Following are specific actions for this recommendation. Table 3 (page 19) again describes

the implementation framework for the actions.

- a. Review and update VTrans “Project Development Process” guidance on developing purpose and need statements to include consistency with state statutes, policies, and goals, in addition to traditional needs such as safety, capacity, system linkage, and roadway deficiencies. The updated guidance should reinforce the importance of state designated community centers and emphasize location efficiency during the development of purpose and need statements with the public. The guidance should also address multimodal service and facility analysis (e.g., access to transit, transit service frequency, type and connectivity of pedestrian and bicycle facilities) in addition to traditional traffic data and performance measures.
- b. Review and update VTrans “Project Development Process” guidance on developing scoping studies with an emphasis on evaluating tradeoffs among direct

develop the next generation of

and indirect impacts of transportation supply (i.e., system capacity expansion) and demand (i.e., demand management) solutions, incorporating economic, environmental, and social performance measures consistent with state goals and regional and local plans, and delivering long-term cost effectiveness. This decision making process may be described as “Least Cost Planning” and combines quantitative and qualitative data and measures. It is also consistent with Vermont’s state energy policy. (30 V.S.A. Chapter 5)

- c. Review and update the VTrans “Project Prioritization and Project Selection” methodology to include bonus points for projects within all state designated community centers and for projects meeting complete street, multimodal, and/or intermodal level of service criteria, which may include projects in areas currently outside of state designated community centers.

Importantly, the recommended strategy and actions above, from highlighting consistency with state statutes, policies, and goals to including all state designated community centers in project prioritization, can also help address long standing shortcomings associated with Act 200, the State’s Growth Management Act, by creating an explicit link between the Act’s goals and the key decision points in the project development process.

While the previous strategies and actions focus on the identification and definition of projects, an additional important recommended strategy to include under this heading is the consolidation and update of design standards and guidelines. As noted throughout this study, VTrans has a strong set of smart growth transportation policies in place. This strategy and action recommends consolidating design standards and guidelines to ensure consistency and routine application of the many VTrans smart growth transportation policies.



. . . “unreasonable congestion” development . . .



RECOMMENDATION #3: Consolidate and update VTrans design standards to support multimodal objectives

- a. Review and update design standards and guidelines for all transportation modes where necessary to reflect smart growth principles and consolidate into one comprehensive design standards document. Encourage or incentivize through the Town Highway Programs or Official Maps the adoption of design standards locally that support multimodal objectives.

In addition to public sector initiated projects, VTrans plays an important role in the Act 250 land use permit review process covering significant development and subdivisions in Vermont and manages access to land development through the Section 1111 access permitting process. While “Criterion 5 – Highways and Other Means of Transportation” is the focus of VTrans work relative to Act 250, “Criterion 9(k) – Public Investments” and “Criterion 10 – Local and Regional Plans” also

presents specific instances where smart growth transportation principles and policies can be reinforced through the evaluation of impacts on transportation facilities and plans.

RECOMMENDATION #4: Improve VTrans review and participation under Act 250 and the Section 1111 access permitting process to encourage development in state designated community centers and improve consistency with regional and local plans and state planning law

Evaluating the impacts of new development on transportation facilities and services falls into two general categories: development generating 75 or more peak hour trips directly accessing the state highway system that require a Traffic Impact Study (TIS) and those generating fewer trips. In either case, “unreasonable congestion” thresholds tend to discourage development in compact cities, towns, and villages and encourage it in areas not planned for growth. Similarly, by emphasizing vehicular movement, traffic impact analysis often minimizes

thresholds tend to discourage

multimodal and Transportation Demand Management (TDM) solutions, such as subsidized transit passes and contributions to pedestrian and bicycle infrastructure investments. Access management also plays a critical role in mitigating the impacts of development on the transportation system for all users, yet requires consistent and uniform application at each level of development review. The following actions would help implement this recommendation. Table 3 (page 19) describes the implementation framework for the actions.

- a. Review and update existing VTrans “Traffic Impact Study” guidelines that clearly allow greater Volume-to-Capacity (V/C) thresholds for state designated community centers, utilize multimodal trip generation rates, require multimodal analysis meeting the needs of all users, and comply with state access management standards. Redefine a traditional traffic impact study as a “Transportation Impact Study” or other similar name

reflecting smart growth and multimodal transportation.

- b. Expand support for local government access management programs, either through corridor management planning, planning grants, or technical assistance.
- c. Consistent with Criterion 9(k), which requires that development not endanger any public facilities, services, or lands including the public’s enjoyment of lands, enact legislation or issue an Executive Order that manages and/or conserves land at interchanges consistent with state land use goals (similar to Executive Order No. 19-3 [No. 07-01], expired 2010).

Of course, a closely related issue to the types of mitigation identified in traffic impact analysis are the costs of improving public facilities such as roads and water/wastewater systems – a recurring hurdle for development in existing communities. While the current VTrans practice is “one of not participating in the costs for any mitigation measures” of a particular development,



. . . “unreasonable congestion” compact development . . .

interagency capital grant programs and a mobility fee program are two additional tools that can “level the playing field” and support development in state designated community centers and according to regional and local plans. The following recommended strategy and actions offer two approaches for addressing this issue. Table 3 describes the implementation framework for the actions.

RECOMMENDATION #5:
Identify new policies and programs to support private sector development in state designated community centers and consistent with regional and local plans

- a. Integrate the existing Downtown Transportation Fund program into an expanded, interagency transportation and economic and community development capital grant program that targets infrastructure improvements in designated community centers, including pedestrian, bicycle, and transit facilities, parking, and water/wastewater systems.

In an effort to address shortcomings associated with traditional transportation impact fee programs, notably encouraging development in areas not planned for growth and focusing almost exclusively on vehicular movement, the State of Florida in 2009 introduced the concept of a “mobility fee” program. In short, a mobility fee program determines costs based on consumption measures, such as vehicle miles traveled, rather than congestion measures, such as level of service, supporting multimodal solutions and development and redevelopment in urban areas.

- b. Implement a “mobility fee” based transportation cost system for Vermont that ensures land development projects provide an equitable contribution for the transportation infrastructure necessary to accommodate growth and reflect state land use goals.

Interagency Coordination

Importantly, the preceding recommendations and actions all involve some level of collaboration and coordination among VTrans and its partners. Again, Table 3 summarizes the implementation strategies, including potential partnerships. One remaining alternative strategy discussed at the second PSG meeting was regularly documenting the smart growth benefits and costs of state policies, programs, and investments. Using the “State of Vermont: Smart Growth Progress Report” (*Smart Growth Vermont, 2007*) as a departure point, the opportunity now is to develop the next iteration of a smart growth performance monitoring system for the state and VTrans in particular.

thresholds tend to discourage

RECOMMENDATION #6:

Document the smart growth benefits and costs of VTrans policies, programs, and investments

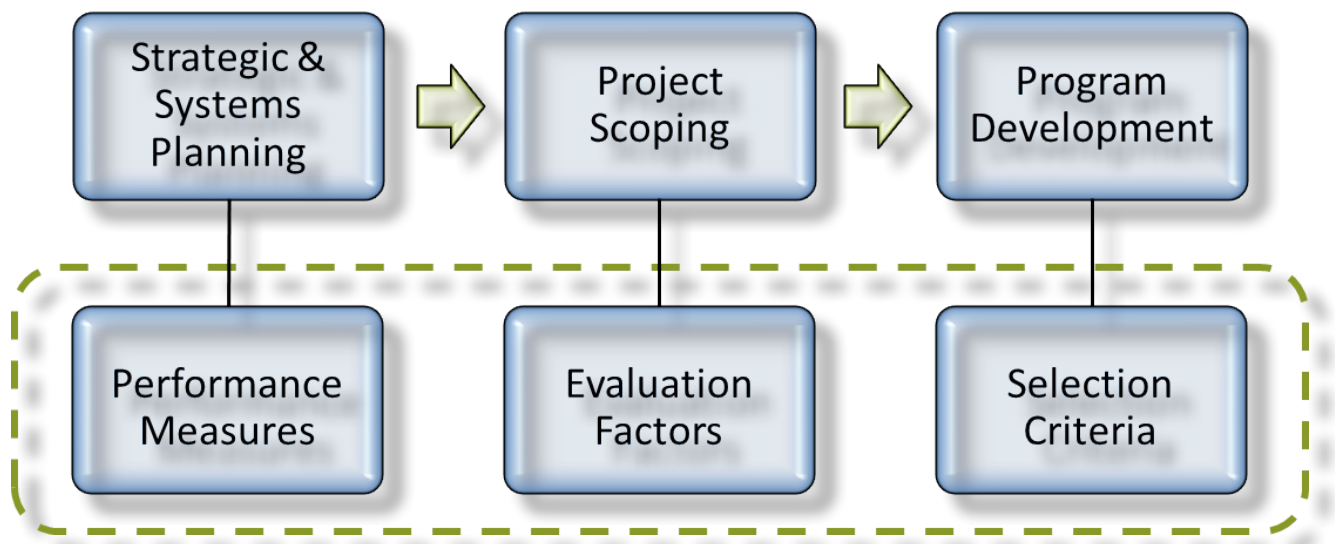
- a. Develop a VTrans smart growth performance measure system, including quantitative and qualitative cost effectiveness tools, in collaboration with other state agencies that complements VTrans performance measures used in planning, project scoping, and project prioritization.

Performance Measures

As discussed during the initial phase of the study, the VTrans 2015 Strategic Plan (2012) summarizes the key performance measures for the Agency. From system preservation to multimodal transportation choices, the performance measures in the Strategic Plan largely reinforce the smart growth focus of various policy plans. In many instances, the Strategic Plan's goals and performance measures are further defined by the extensive performance measurement

system VTrans employs in its agency-wide asset management program. One notable, and noted, omission in the Strategic Plan, however, is a set of performance measures associated with the VTrans goal to support and reinforce Vermont's historic settlement pattern. Developing metrics for this goal is vitally important for strengthening smart growth transportation policies and programs and establishing a critical link among strategic planning, systems planning, project scoping, and project prioritization.

Figure 4. Aligning Decision Making Processes



Grounded in smart growth principles also provide a number of corresponding

While there is increasing attention on performance-based planning at the federal level, including performance measures contained in the most recent federal surface transportation authorization bill, Moving Ahead for Progress in the 21st Century (MAP-21), numerous state and regional efforts have made greater strides in developing more comprehensive

performance measures that integrate transportation and land use decision making. VTrans could utilize the following performance measures to supplement existing metrics and evaluate the Agency's progress toward achieving its goal to support and reinforce Vermont's historic settlement pattern. Grounded in smart growth principles, the performance

measures also provide a number of corresponding multimodal transportation, economic, fiscal, community, and environmental benefits.

Each of the proposed performance measures can be evaluated at multiple scales and over different time horizons to track progress. At a given time, for example, one can gauge whether the performance

Table 2. Land Use & Transportation Performance Measures

VTrans Strategic Goal #6: Support and Reinforce Vermont's Historic Settlement Pattern of Compact Village and Urban Centers Supported by Rural Countryside (*VTrans 2015 Strategic Plan, 2012*)

Objective	Performance Measure	Description	Tools
Focus development in planned growth areas	Consistency with state, regional, and local land use plans	% of transportation investments in planned growth areas	GIS
Improve access and connectivity to economic and educational opportunities	- Access to employment centers - Access to education centers	Number of households within 30 minute transit, 30 minute bicycle, 20 minute vehicle, and 20 minute walking trip to employment and education centers	Travel demand models, GIS
Expand transportation affordability	Annual costs of transportation relative to annual income	% of household income spent on transportation	Travel demand models, GIS
Ensure transportation network continuity and quality	Consistency with complete streets policy	% of roads or streets meeting complete streets design standards	Roadway information management system, GIS
Minimize land consumed by new transportation infrastructure and/or new development served by new transportation infrastructure	- Ecologically sensitive lands consumed - Agricultural land consumed - Open space consumed	- Acres of floodplain, wetlands, habitat, parkland - Acres of farmland - Acres of undeveloped land	GIS
Minimize greenhouse gas and air pollution emissions and energy consumption	- Amount of carbon dioxide emitted from transportation - Amount of vehicle activity	- CO₂ emissions/capita - Vehicle Miles Traveled (VMT)/capita	Emissions models, travel demand models

Source: *Guide to Sustainable Transportation Performance Measures, US EPA (2011); Smart Mobility 2010, Caltrans (2010); Gresham, Smith & Partners*

principles, the performance measures bonding ... benefits.

measures in aggregate are improving or declining. Alternatively, in project scoping, they can be used to evaluate different scenarios including the possibility of combining the analysis with land use models. Underpinning the performance measures is again the concept of location efficiency and the most important and fundamental land use factors affecting transportation, commonly referred to as the three “D’s” – density, diversity, and design.

3. Summary

The recommended alternatives consist of six strategies and twelve actions that VTrans can pursue with its partners and improve its support for state designated community centers and regional and local plans within the constraints of its overall budget. Indeed, the recommended alternatives focus almost exclusively on existing policies, programs, processes, and performance measures that underlie the current smart growth transportation framework in Vermont, rather than initiatives requiring new

funding or undermining the basic commitment to asset management.

Table 3 summarizes the recommended alternatives and proposed implementation strategies. Beginning with fiscal year 2014, the implementation framework is based on a three-year time frame. The overall timing of the recommended alternatives and actions reflects the priorities discussed by the Project Stakeholder Group, and identifies anticipated start dates. The PSG emphasized the following two recommended alternatives, in particular:

- **RECOMMENDATION #1:** Strengthen and expand the VTrans corridor management planning program
- **RECOMMENDATION #4:** Improve VTrans review and participation under Act 250 and the Section 1111 access permitting process to encourage development in state designated community centers and improve consistency with regional and local plans and state planning law



... it is clear there are new opportunities to strengthen the state's economy ...



It is important to note that the recommendations identified in this report and in Table 3 do not explicitly capture all of the strategies considered during the course of the study. Many of the additional strategies focused on more detailed and specific actions that could improve the connection between smart growth development patterns and the transportation system, for example, organizing the full and diverse range of transit providers in Vermont. Documented in earlier technical memorandums and meeting notes, the additional strategies and actions primarily complement the broader strategies outlined in this report. They could serve then as further resources for implementing the recommended strategies or serve as stand alone actions.

Finally, within the context of this study, the implementation strategies reported in Table 3 only highlight potential public sector partners. The success of many of the recommended strategies, however, will require important partnerships with the private sector, from the real estate development community to not-for-profit organizations working

on a myriad of issues critical to Vermont's future. These public-private partnerships will play an essential role in determining the success of the recommended strategies.

As VTrans moves forward, it is clear there are new opportunities to strengthen the state's economy and multimodal transportation system through smart growth policies and programs. At the heart of this opportunity, and given Vermont's long standing commitment to smart growth, is the fundamental question – Working with its partners, how can VTrans best support state designated community centers and regional and local plans within the constraints of its overall budget?

Table 3. Implementation Framework for the Recommended Strategies, FY 2014 - 2016

Recommendation	Actions	Time Frame	Lead	Partners	Funding/ Resources
#1. Strengthen and expand the VTrans corridor management planning program	a. Review and update the VTrans Corridor Management Handbook	FY 2014	VTrans Policy & Planning	RPC, MPO, ACCD, Local Government	VTrans
	b. Develop an interagency competitive planning grant program among VTrans, ACCD, ANR, PSD, VDH, and other interested agencies	FY 2014	ACCD, VTrans	ACCD, ANR, PSD, VDH, RPC, MPO, Local Government	Interagency
#2. Revise VTrans guidance and procedures for identifying, defining, and prioritizing transportation projects to incorporate and measure consistency with state land use, economic development, environmental, and community development goals	a. Review and update VTrans “Project Development Process” guidance on developing purpose and need statements to include consistency with state statutes, policies, and goals	FY 2015	VTrans Program Development	ACCD, ANR, RPC, MPO, Local Government	VTrans
	b. Review and update VTrans “Project Development Process” guidance on developing scoping studies with an emphasis on evaluating transportation supply and demand solutions	FY 2015	VTrans Program Development	ACCD, ANR, RPC, MPO, Local Government	VTrans
	c. Review and update the VTrans “Project Prioritization and Project Selection” methodology to include bonus points for projects within all state designated community centers and for projects meeting multimodal service criteria	FY 2016	VTrans Management	ACCD, ANR, RPC, MPO, Local Government	VTrans
#3. Consolidate and update VTrans design standards to support multimodal objectives	a. Review and update design standards and guidelines for all transportation modes where necessary to reflect smart growth principles and consolidate into one comprehensive design standards document	FY 2016	VTrans Program Development	RPC, MPO, Local Government	VTrans
#4. Improve VTrans review and participation under Act 250 and the Section 1111 access permitting process to encourage development in state designated community centers and improve consistency with regional and local plans and state planning law	a. Review and update existing VTrans “Traffic Impact Study” guidelines that clearly define new volume-to-capacity thresholds for state designated community centers and require multimodal analysis	FY 2015	VTrans Policy & Planning	RPC, MPO, Local Government, FHWA, VTrans Operations, VTrans Program Development	VTrans
	b. Expand support for local government access management programs, either through corridor management planning, planning grants, or technical assistance	FY 2014	VTrans Policy & Planning	ACCD, RPC, MPO, Local Government	Interagency
	c. Consistent with Criterion 9(k), enact legislation or issue an Executive Order that manages and/or conserves land at interchanges consistent with state land use goals	FY 2015	ACCD, NRB	ACCD, ANR, NRB, RPC, MPO, Local Government, Non-profit organizations (e.g., VT Natural Resources Council, Land Conservation Groups, etc.)	Interagency
#5. Identify new policies and programs to support private sector development in state designated community centers and consistent with regional and local plans	a. Coordinate the existing Downtown Transportation Fund program with an expanded, interagency transportation and economic and community development capital grant program.	FY 2015	VTrans Management	ACCD, ANR, Local Government	Interagency
	b. Implement a “mobility fee” based transportation cost system for Vermont, ensuring development projects provide an equitable contribution for transportation infrastructure	FY 2015	VTrans Policy & Planning	ACCD, NRB, RPC, MPO, Local Government	Interagency
#6. Document the smart growth benefits and costs of VTrans policies, programs, and investments	a. Develop a VTrans smart growth performance measure system, including quantitative and qualitative cost effectiveness tools, in collaboration with other state agencies	FY 2016	VTrans Policy & Planning	ACCD, ANR, PSD, VDH, RPC, MPO, Local Government	VTrans

ACCD – Vermont Agency of Commerce and Community Development; ANR – Vermont Agency of Natural Resources; MPO – Chittenden County MPO; NRB – Vermont Natural Resources Board; PSD – Vermont Public Service Department; RPC – Regional Planning Commissions; VDH – Vermont Department of Health; VTrans – Vermont Agency of Transportation