CHITTENDEN COUNTY RPC
Communities Planning Together

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Planning Advisory Committee

Wednesday, July 8, 2015
2:30pm to 4:30pm
CCRPC Main Conference Room, 110 West Canal Street, Winooski

Agenda

2:30 Welcome and Introductions, *Joss Besse*

2:35 Approval of March 11, 2015 Minutes*

2:40 Legislation & Other Updates, *Regina Mahony*

a. *Water Quality/TMDL bill - rural road permit, pending CCRPC adHoc Water Quality Committee, and changes to Chapter 117*
b. *H.40 – new Chapter 117 statute for solar project screening.*
c. *10 year Municipal Plan – VPA will continue to work on this in the Summer/Fall*
d. *AHMP – municipal meetings*

3:40 So. Burlington 2015 Comprehensive Plan*, *Emily Nosse-Leirer*

4:10 Regional Act 250/Section 248 Projects on the Horizon, *Committee Members*

4:20 Other Business

a. Congrats to Melissa Manka, VPA Professional Planner of the Year!
b. Downtown and Village Tax Credit Program. This year, legislative changes to the program include updates to make the tax credits more useful and effective. A new tax credit, of up to $40,000, is now available for affordable elevators known as LULAs (Limited Use Limited Application), and the cap for state building code-required improvements increases from $25,000 to $50,000.
c. Sustainable Communities Network info - SCLearningNetwork.org

4:30 Adjourn

* = Attachment

NEXT MEETING: September 9th, 2015 at 2:30pm to 3:30pm. We will follow this with the next AHMP Committee meeting

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CHITTENDEN COUNTY REGIONAL PLANNING COMMISSION
PLANNING ADVISORY COMMITTEE - MINUTES

DATE: Wednesday, March 11, 2015
TIME: 2:30 p.m. to 4:30 p.m.
PLACE: CCRPC Offices, 110 West Canal Street, Suite 202, Winooski, VT

Members Present
Joss Besse, Bolton
Eranthie Yeshwant, Winooski
Paul Conner, South Burlington
Ken Belliveau, Williston
Edmund Booth, Huntington
Dana Hanley, Essex
Sarah McShane, Underhill
Clare Rock, Richmond
Jeannine McCrumb, Charlotte
Dean Pierce, Shelburne
Barbara Young, St. George
Everett Marshall, Huntington
Paul Conner, So. Burlington

Staff
Regina Mahony, Senior Planner
Dan Albrecht, Senior Planner

Other

1. Welcome and Introductions

Joss Besse called the meeting to order at 2:39 p.m.

2. Approval of January 14, 2015 Minutes

Ken Belliveau made a motion, seconded by Dana Hanley to approve the January 14, 2015 minutes. No further discussion. MOTION PASSED.

3. UPWP Update

Regina reported that the last UPWP Committee meeting will take place next Thursday, 3/19th. Ken Belliveau and Joss Besse have served on that Committee on behalf of the PAC. The packet is being prepared at the moment. There may still be some asks to municipalities to prioritize their requests if they submitted multiple requests. Clare Rock asked when the decisions will be made. Ken Belliveau suggested that you probably would have already heard from Charlie if your request couldn't be met.

4. All Hazard Mitigation Plan Updates & Associated Efforts

Dan Albrecht provided an overview of the process and timeline for the All Hazard Mitigation Plan (AHMP) update (process and timeline is attached):

- The AHMP are required in order for municipalities to maintain eligibility for pre-disaster mitigation funding. Also the State is requiring these plans in order to get the best State match share (in addition to other requirements).
- The current AHMP and municipal annexes expire in August 2016. We need to have the final plan submitted to FEMA prior to this date and we are planning on a July 8, 2016 deadline.
- A Committee will need to be established to help with this process. Representatives appointed by each municipality's governing body, one or more representatives appointed by LEPC #1, one or more commissioner representatives of CCRPC, and ex-officio officials from VEM and Vermont ANR will be invited to serve on the committee.
- CCRPC will have an intern working on updating the tabular data this summer. Dan Albrecht, Lee Krohn and Regina Mahony will assist the municipalities with updates to the recommendations, strategies and actions.
- CCRPC will visit with the Selectboards for an intro presentation; will seek input from Municipal Staff; and will return to the Selectboards for final approval.

Clare Rock asked about the timing of the annexes v. the County wide plan. Dan Albrecht explained that we've done them altogether on the past two rounds and so the expiration dates are all the same, and we intend to get these updates all adopted at the same time as well. Clare Rock asked what the public engagement includes and Dan Albrecht explained that we've done the two Selectboard meetings in the past and we can do more if

wanted/needed. Paul Conner asked who should be the lead contact at the municipalities. Dan Albrecht suggested that we should look at the recommendations, strategies and actions in each municipality and determine who makes the most sense considering the plans cover multiple departments. It would be helpful to have one main point of contact at each municipality.

Dan Albrecht further explained that FEMA likes to see progress on the recommendations within the previous plans. We've completed many of the Fluvial Erosion Hazard assessments, established River Corridor plans, the floodplain maps and regulations have been updated, some landslide hazard work has been done, etc. Dan Albrecht showed the PAC Table 5-3 from Williston's annex as an example of the specific municipal recommendations within the plans.

Clare Rock asked if there are actual specific regional emergency strategies in the Plan. Dan showed the strategies on page ii of the County plan – these include culvert assessments (we've been working on a tool for this), Climate Action Plan (completed), we've done a lot of outreach on the Emergency Relief & Assistance Fund (ERAF), and we've worked on better coordination between transportation, emergency needs and aquatic organism passage. The Nature Conservancy has also worked on some data regarding culverts and aquatic organism passage and CCRPC will pull this altogether for the AHMP update. Clare Rock suggested that perhaps – if a number of municipalities identify FEMA's Community Rating System (CRS) as a strategy perhaps CCRPC would consider taking on responsibility for some of the actions required in that program. Clare Rock described that Rhode Island has taken on 10 of the activities and therefore has made the program more feasible for the municipalities within the State.

Regina Mahony then described the ERAF criteria to date, and the changes that will take place in March 2017 in order for municipalities to be eligible for the full 17.5% of state share for the mitigation grant match. Regina Mahony and Dan Albrecht explained the status of the municipalities so far – all put 5 municipalities have been given early adopted status. This status goes away in March 2017, at which point the municipalities will need to have the four base criteria in place (adopted the most current Vermont Town Road & Bridge Standards, National Flood Insurance Program participation, an approved AHMP and annually adopted Local Emergency Operation Plans) and one of the following two options:

1. Community Rating System designation plus prohibit structures in Flood Hazard Areas.
2. Adopt River Corridor or River Corridor Protection Area protections for streams draining greater than 2 sq. miles, 50' (non-waivable) setbacks from streams that drain less than 2 sq. miles, and Fluvial Erosion Hazard Area protections.

Regina Mahony explained that part of the challenge is that the River Corridor maps that ANR has established do not include Phase 2 data that we have for much of Chittenden County. Therefore the River Corridor map is not as accurate as it could be. There are also some questions regarding how exactly the protections need to be implemented. For early adopter status many of CCRPC's municipalities have water quality setbacks that have been counted as adequate protection rather than adopted FEH overlays. CCRPC (along with the other RPCs) will continue conversations with ANR to determine the best method for incorporating the FEH data (we are hoping that we can create this map for Chittenden County ourselves), and to hopefully gain some level of flexibility in the protection methods. Regina Mahony then showed the PAC a map that Pam Brangan put together that shows how the various data layers (namely FEH v. River Corridor) compare to each other – specifically in Winooski the River Corridor is more expansive than the FEH data. Regina Mahony explained that CCRPC will repeat the exercise that we conducted to determine which municipalities were eligible for the early adopter status for the March 2017 changes. More information will be provided as we work this out with ANR.

5. <u>Natural Resources Board Proposed Act 250 Rule Changes Regarding Master Plans</u>

Regina Mahony provided the PAC with recommendations from CCRPC's ad hoc Permit Review Committee regarding the Natural Resources Board's (NRB) proposal to allow the District Commissions to require Master Plans in some circumstances. The proposal and the ad hoc Committee's recommendations are as follows:

I. Master Plans
(A) Applicability and effect.
1) An applicant may seek review of a phased development or lot-by-lot build-out of a subdivision as a master plan decision.
2) Master plan applications shall be reviewed as a request for partial review under subdivision II of this rule.
3) The District Commission may require a master plan application if:
~~a) the proposed development or subdivision involves multiple phases; or~~
b) the master plan process would avoid or limit piecemeal review of known development or subdivision planned for the reasonably foreseeable future.

The ad hoc Committee felt that while there are some situations where master plans are a good step it shouldn't be required. Regina Mahony explained that these proposed changes come from some issues with the ski resorts – namely Killington ski resort, and Two Rivers-Ottauquechee RPC is in support of NRB's proposed change.

The PAC also reviewed a suggestion that Dean Pierce had provided earlier via email:
3) The District Commission may require a master plan application if: a) the proposed development or subdivision involves multiple interdependent phases; or b) the master plan process would avoid or limit piecemeal review of development or subdivision planned for the reasonably foreseeable future.
Dean Pierce's suggested edit recognizes that multiple phases alone do not justify a master plan requirement. But if there are multiple phases and future phases rely (in some way) on the first phase—and vice versa—the master plan review would be justified.

The PAC discussed the ad hoc Committee's proposal, as well as Dean Pierce's, and felt that they didn't fully understand how the situation would play out in Chittenden County. They discussed that the proposal did seem a bit vague without timing or something additional added to 3a. It is important to note that some members had to leave the meeting before this agenda item was concluded. Ultimately, the remaining members came to consensus on the following:
3) The District Commission may require a master plan application if: a) the proposed development or subdivision involves multiple interdependent phases; or b) the master plan process would avoid or limit piecemeal review of ~~known~~ development or subdivision planned for the reasonably foreseeable future.

6. Underhill 2015 Town Plan
Public hearing opened (3:50pm). No one from the public was in attendance. Public Hearing closed.

Regina provided a quick overview of the Staff report and specifically brought attention to the recommendation to add responsible parties and timeframe to the implementation steps. Dana suggested that implementation action plan be done right in the beginning because no one looks at the table in the back. Joss reiterated that this is a new recommendation that we've been asking municipalities to consider. Clare Rock asked if Appendix A includes a public engagement section and if CCRPC is reviewing public engagement steps that the municipalities have undergone in developing the Plans. Regina Mahony stated that Appendix A includes the broad state goal regarding engagement, but beyond that we haven't specifically reviewed the public engagement process. Sarah McShane explained that they didn't get too much public feedback but they did get input from a lot of the other Town Committee's. Clare Rock also asked about the Act 59 requirements and if it was in Appendix A. Regina Mahony explained that it isn't listed in there because it isn't a requirement for RPC approval, but it is a good idea to include it as a reminder.

Joss Besse stated the Staff report should be corrected to make it clear that the boundary between Underhill and Stowe is the State Forest, not the Firing Range; and that the public hearing was held (correct this at the end of the motion). Regina Mahony will make those corrections to the Staff Report.

Dana Hanley made a motion, seconded by Jeannine McCrumb, that the PAC finds the draft 2015 Underhill Town Plan, as submitted, meets all statutory requirements for CCRPC approval, and that the municipality's planning process meets all statutory requirements for CCRPC confirmation. Upon notification that the Plan has been adopted by the municipality, CCRPC staff will review the plan, and any information relevant to the confirmation process, for changes. If staff determines that changes are substantive, those changes will be forwarded to the PAC for review. Otherwise the PAC recommends that the Plan, and the municipal planning process, should be forwarded to the CCRPC Board for approval. Discussion: Ken Belliveau asked about the timing because we are making a recommendation before the Town has finalized their process. The PAC reminded the PAC No further discussion. MOTION PASSED. Sarah McShane and Everett Marshall abstained.

7. Regional Act 250/Section 248 Projects in the Horizon

- So. Burlington – City applied for 2mW solar farm; Cider Mill Phase 2 (City just received application – this will ultimately go to Act 250); Friendly's redevelopment will likely go to Act 250 soon. Market St. – 12 total units in 4 bldgs. – this is the second project in the TIF District.
- Huntington – none
- Williston – Act 250 permit on a bike/pedestrian bridge over the Allen Brook – municipal application.
- St. George – the municipality may be co-applicants on School House Place - a development at Town Center. The specifics of the mixed use proposal are still being worked out.
- Bolton - nothing
- Winooski – the hotel in Downtown is moving through the process, but this was already approved in the master plan so it won't go through Act 250 again.
- Charlotte – nothing

8. Other Business

a. DRB Summit – Regina Mahony explained that 4/27th appears to be the most popular date so far. Regina asked the PAC to fill out the survey regarding what topics to discuss, and if they have a DRB member to recommend for the roundtable panel.

b. Potential Training Topics – There was a very brief discussion about potential training topics for the next meeting including Food Insecurity – information was provided in the packet after the minutes, the Revised Energy Code and May VEIC Workshop. There were mixed opinions about food insecurity as a topic, and the energy code revisions appear to be better suited for developer's as an audience rather than planners. Joss Besse suggested that there will likely be legislative updates to discuss at the next PAC meeting.

c. Jeannine McCrumb provided the following updates:
   - There is a meeting scheduled for March 25th at the State house regarding siting standards for renewable energy facilities. There are a number of different bills proposed and the purpose of this meeting is to hash out issues within the various bills.
   - Charlotte is considering applying for a Village Center Designation - Jeannine McCrumb indicated that Regina Mahony is likely to hear from the folks working on the proposal.
   - Jeannine McCrumb watched a Rural Roads and Water Quality webinar hosted by Watershed United. It was very well done and provided information on road inventory and TMDL requirements coming down the pike. The presentation can be found here: http://www.watershedsunitedvt.org/presentations.

7. Adjourn

The meeting adjourned at 4:55 p.m. The next meeting will take place on May 13, 2015 from 2:30pm to 4:30pm.

Respectfully submitted, Regina Mahony

6.3 Updating the Chittenden County Multi-Jurisdictional All Hazards Mitigation Plan and Municipal Annexes

FEMA regulations require that the All Hazards Mitigation Plan be updated, adopted and approved every five years in order for jurisdictions to maintain eligibility for pre-disaster mitigation funding. This five-year update cycle helps ensure that the plan remains current and relevant.

CCRPC anticipates that the following plan update procedure will be followed:

1. CCRPC will seek pre-disaster mitigation grant or other grants to fund the plan update.
2. CCRPC will convene an All-Hazards Mitigation Plan Update Committee. Representatives appointed by each municipality's governing body, one or more representatives appointed by LEPC #1, one or more commissioner representatives of CCRPC, and ex-officio officials from VEM and Vermont ANR will be invited to serve on the committee.
3. The Plan Update Committee will review the annual summary monitoring and evaluation reports. The Committee will also review the Plan's identified hazards, the hazard evaluation process, and the multi-jurisdictional mitigation strategies to determine whether they are still appropriate, or whether modifications or additions are needed based on current knowledge and conditions.
4. Based on Committee input, CCRPC staff will update relevant data in the Plan and prepare a draft Plan update. CCRPC will convene a second meeting of the Review/Update committee to review the draft Plan update. The Committee will reach consensus on changes to the draft Plan update and the format of the municipal annexes. In the event no consensus is reached, a vote by a simple majority of the Committee voting members present will decide.
5. CCRPC will incorporate the changes as recommended by the Committee and then work with municipal staff and officials to update their individual annexes to accurately reflect the municipality's current hazard mitigation concerns and recommended municipal goals and actions.
6. CCRPC will schedule a public presentation to each municipal governing body in order to formally present the draft update of the Multi-Jurisdictional Plan and to the municipal annex. Each governing body may provide, if it chooses, recommendations for further changes to the updated Multi-Jurisdictional Plan and to its individual annex.
7. The public may observe the presentations and provide comments, if desired, on the Multi-Jurisdictional Plan and the individual municipal annexes. The draft updated plans will be posted on the CCRPC website for public review and comment.
8. CCRPC staff will incorporate the public and municipal comments into the Multi-Jurisdictional Plan and the individual municipal annexes.

9. CCRPC may submit the Multi-Jurisdictional Plan and municipal annexes to FEMA Region I for approval pending adoption.
10. CCRPC staff will finalize the changes to the Multi-Jurisdictional Plan and the annexes and distribute these to CCRPC, LEPC #1, and municipal governing bodies for consideration of a resolution of re-adoption. Upon adoption by CCRPC, LEPC#1 and within three months of the time that the CCRPC has finished presentations to all of the municipal governing bodies, CCRPC will submit the updated Plan to FEMA Region I along with copies of the annexes adopted to date.

A municipality may choose not to re-adopt the updated Multi-Jurisdictional Plan and its respective local annex, recognizing that they may no longer use the updated Plan and annex to be eligible for FEMA hazard mitigation grants. A municipality may choose to develop, adopt and submit its own Local All-Hazards Mitigation Plan to FEMA Region I, consistent with the requirements of the *Disaster Mitigation Act of 2000* and regulations contained in *44CFR201 & 206* in order to maintain eligibility.

6.4 Incorporation into Existing Planning Mechanisms

The All-Hazards Mitigation Plan was used as a source when updating the Chittenden County Regional Plan in 2006. The 2006 Regional Plan contained a new Public Safety chapter, the text and stated goals of which relied heavily on the All-Hazards Mitigation Plan.

The mitigation strategies contained in this Plan can be incorporated into CCRPC's future planning mechanisms in two primary ways:

The Chittenden County Regional Plan – CCRPC's process for updating the *Chittenden County Regional Plan* will consider and incorporate as appropriate the data, analyses and mitigation strategies of this All Hazards Mitigation Plan.

The CCRPC annual Work Program – CCRPC will consider and incorporate mitigation strategies and actions into its annual Work Program, contingent on sufficient resources being available.

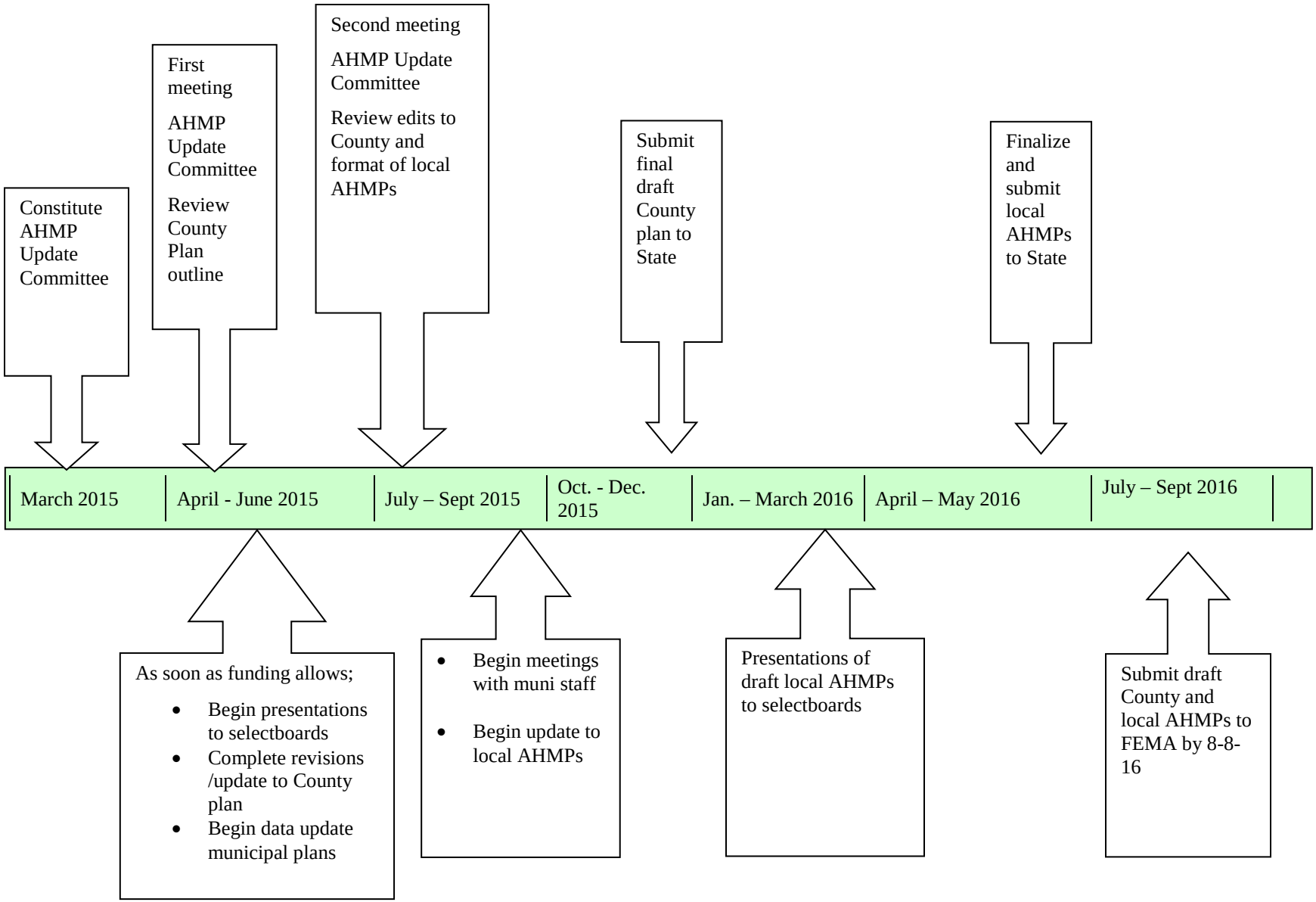
Opportunities exist for municipalities and other entities to incorporate this Plan's mitigation strategies into their own planning mechanisms, including but not limited to:

- Municipal comprehensive plans
- Municipal capital budgets
- Municipal zoning bylaws and subdivision regulations
- Municipal permitting processes (e.g., zoning permits, subdivision approvals, site plan reviews, road access permits, etc)
- Redevelopment plans
- Transportation improvement programs
- Open space preservation programs
- Mutual aid agreements

Some of the mitigation strategies in this Multi-jurisdictional All Hazards Mitigation Plan and the municipal annexes specifically identify actions to incorporate mitigation strategies into other

planning mechanisms. Other opportunities may become apparent when the strategies are implemented. The ability of municipalities and other entities to incorporate this Plan's mitigation strategies into other planning mechanisms is contingent on adequate funding and staffing resources.

Timeline: Updating the All-Hazards Mitigation Plans (AHMPs)
Multi-Jurisdictional (County) and Municipal Annexes (local plans)



southburlington
PLANNING & ZONING

June 16, 2015

Charlie Baker, Executive Director
Regina Mahony, Senior Planner
Chittenden County Regional Planning Commission
110 West Canal Street
Winooski, VT 05404

Dear Charlie & Regina,

The City of South Burlington has entered into the process of updating its Comprehensive Plan, which was last adopted on March 9, 2011 and approved by the CCRPC shortly thereafter. This Plan is a significant overhaul of the current Plan, which was essentially a re-adoption of the previous plan.

This letter is an INFORMAL request that the Chittenden County Regional Planning Commission's Planning Advisory Committee perform a review of the Draft Comprehensive Plan that is before the South Burlington Planning Commission for consistency with the planning process in accordance with 24 VSA §4350. The information needed for plan review and confirmation as outlined in the CCRPC's "Guidelines and Standards for Confirmation of Municipal Planning Processes and Approval of Municipal Plans" is attached or on their way shortly.

The Planning Commission is just about to broadly advertise the draft Plan for public input, after which they would formally warn and hold a public hearing.

We recognize that this a little bit earlier in the process than the PAC often sees a draft Plan, but we're interested in identifying any questions and items to be addressed before the formal hearing process begins. We would expect to submit the draft Plan again, formally, to the CCRPC for consideration of approval later this summer or fall.

If you have any questions about the Plan or the documents I have provided for your review, please feel free to contact Cathyann LaRose, City Planner, via phone at (802) 846-4106 or via email at clarose@sburl.com.

Sincerely,

Paul Conner, AICP
Director of Planning & Zoning

South Burlington Planning & Zoning Department Budget: FY2012 through FY2016	**FY2012**	**FY2013**	**FY2014**	**FY2015**	**FY2016**
Salaries/Benefits	214,729	215,071	253,777	256,801	258,539
CCRPC Dues	18,165	18,269	18,325	36,366	36,373
CCMPO Dues	17,152	17,101	17,153	0	0
GBIC Dues	5,000	5,000	5,000	5,000	5,000
Miscellaneous* (1)	15,000	0	15,000	17,000	20,000
Miscellaneous* (2)	8,000	6,622	5,650	5,250	6,000
Total	**278,046**	**262,063**	**314,905**	**320,417**	**325,912**

*All other expenses – e.g., special projects (may include grant funds), telephone, notices, supplies, etc.

(1) Listed here are only Municipal Planning Funds. The City has received grant funds from other sources not listed

(2) includes telephones, postage, and meeting advertizing

	Appendix A, CCRPC Guidelines and Standards for Confirmation of the Municipal Planning Processes and Approval of Municipal Plans				
	Requirement	**Guideline Questions**	**Yes/No**	**Location**	**Comments**
	Consistent with General Goals in Sec. 4302(b)				
1	(1) To establish a coordinated, comprehensive planning process and policy framework to guide decisions by municipalities, regional planning commissions, and state agencies.	*Are municipal decisions guided by a coordinated, comprehensive planning process and policy framework?*	yes	Section 1.3, page 1-5; also section 1.4, page 1-10	This plan recommends a number of actions and practices that could be undertaken by the city and community to help achieve the goals and objectives of the plan. This goal was met in the development of this plan.
2	(2) To encourage citizen participation at all levels of the planning process, and to assure that decisions shall be made at the most local level possible commensurate with their impact.	*Is citizen participation encouraged at all levels of the planning process?*	yes	page 1-6; also page 2-42	Citizen participation was crucial to the development of this plan. See referenced page numbers for discussion.
3	(3) To consider the use of resources and the consequences of growth and development for the region and the state, as well as the community in which it takes place.	*Is consideration being given to the use of resources and the consequences of growth and development?*	yes	Most clearly articulated in goals, page 1-1.	
4	(4) To encourage and assist municipalities to work creatively together to implement and develop plans.	*Is the municipality working creatively together with other municipalities to develop and implement plans?*	yes	See goal 10, page 1-1. Also page 1-12, strategies 84, 125 among others,, and Section 3.3, page 3-37	South Burlington recognizes that it is not an island; as a major host to employment and housing in the region, and with transit access via state routes 2 and 7, it is critical to work with neighboring municipalities towards regional success and sustainability. Corridor plans, shared services, mutual aid, active participation in regional planning are several examples.
	Requirement	**Guideline Questions**	**Yes/No**	**Location**	**Comments**
	Consistent with Specific Goals in Sec. 4302(c)				
5	**1. To plan development so as to maintain the historic settlement pattern of compact village and urban centers separated by rural countryside.**	*Do the land use patterns proposed in the Land Use chapter of the Plan support this goal? If so, are proposed densities higher within or adjacent to village/downtown/growth areas?*	yes	Future Land Use Map and text, 3.2B, page 3-4; Land Use planning areas 3.2C, page 3-6.	This plan maintains an effective balance between green space, natural areas, residential, commercial and industrial development. Planning areas reflect these goals with relation to planned central areas, conserved or low-density natural areas, and existing transportation corridors. The City Center area, specifically, is a NTC and NDA and has the highest allowed densities in the area.
		Does the plan ensure that intensive residential development is encouraged primarily in areas related to village/downtown/growth areas?	Yes	See above.	See above.

6	A. Intensive residential development should be encouraged primarily in areas related to community centers, and strip development along highways should be discouraged.	*Does the plan allow for auto-centered commercial uses outside of designated village/downtown/growth areas?*	Limited	Future land use map.	The plan intends for most growth to occur in the City Center/Central district area, which is also a designated New Town Center. However, it also recognizes the value of thoughtful infill development along previously developed major transportation corridors, especially state routes 2 and 7.
		If so, are these areas that already have historic strip-type development? Is the town making an effort to incorporate more multi modal land uses?	Yes.	Throughout	The City has invested significant resources in improving the sustainability, functionality, aesthetics, and walkability of infill development along its major transportation routes. This has included a *Cars-to-People* project, an intensive and ongoing exploration into form-based codes, and multiple objectives and strategies for multi-modal design, form and function.
		If so, is strip development limited to areas that are already developed as strip developments or is the community encouraging new strip development?		Throughout	It is valuable to note here that thoughtful mixed-use infill development along transportation corridors does not equate to strip development. The city is and will continue to work towards ensuring that this infill development remains high quality in design and function. The plan is consistent with state law and state planning goals.
7	B. Economic growth should be encouraged in locally designated growth areas, or employed to revitalize existing village and urban centers, or both.	*Is economic growth encouraged in locally designated growth areas, or employed to revitalize existing village and town urban centers, or both?*	Yes	2.2C, page 2-14 and 3.2C, page 3-6.	The plan lays a foundation for a multitude of attractive opportunities for growth within the city core. These are, admittedly, not strongly articulated. Staff will work with the Planning Commission on this prior to requesting a formal review.
		Does the plan discuss where economic growth is to be located?	Yes	Objective 34 and 35; future land use map	The future land use map highlights the central area as appropriate for most intense growth. Plan is consistent with regional plan.
		Are the types of uses described of a scale and type that they will have little or no impact on the rural countryside? (such as home businesses)			A few small scale neighborhood-oriented commercial uses are permitted to serve very local populations. They are intended to service neighborhoods with walkable goods or services, not detract from them.
		Does the plan discuss the need to locate most municipal or public buildings within the economic core of the community?	Yes	Strategy 19	

		Does the proposed transportation system encourage economic development in existing village centers/growth areas/downtowns?	Yes	2.3, page 2-44	
8	C. Public investments, including the construction or expansion of infrastructure, should reinforce the general character and planned growth patterns of the area.	*Are public investments, including the construction or expansion of infrastructure, planned to reinforce the general character and planned growth patterns of the area?*	Yes	2.3, page 2-44	
		Does the plan effectively discuss future infrastructure needs?	Yes	2.3, page 2-44	
		Does the plan effectively discuss where future infrastructure will be needed?	Yes	2.3, page 2-44; also page 2-56	
		If no planned infrastructure investments are planned, does the plan make this clear?	N/A		
		Are the development patterns proposed in the land use chapter likely to lead to forced infrastructure improvements and increased services due to increases in density? (such as high density development on rural roads)	No		This is a reciprocal relationship; development is planned so as to respect areas with infrastructure improvements. The city has implemented several tools, such as the Transit Overlay District, to encourage and require land use patterns that match infrastructure investments.
9	**2. To provide a strong and diverse economy that provides satisfying and rewarding job opportunities and that maintains high environmental standards, and to expand economic opportunities in areas with high unemployment or low per capita incomes.**	*Does the plan have an economic development chapter?*	Yes	2.2	
		Does the plan discuss its position in terms of regional employment? (i.e. is it an employment center, is it a bedroom community, etc.)	Yes	2.2; objective 4	
		Does the plan discuss unemployment or lack thereof?	Yes	2.2	
		Does the plan discuss the balance of improving the economy and maintaining environmental standards?	Yes	2.2	
10	**3. To broaden access to educational and vocational training opportunities sufficient to ensure the full realization of the abilities of all Vermonters.**	*Does the plan discuss adult education?*	Yes	Objective 7 and 9	
		Does the plan discuss where educational opportunities are and might be found?	Yes	Page 2-31 through 2-39	
		Is the town working with the local school district or the community to provide educational opportunities in schools and in other community settings?	Yes		

11	**4. To provide for safe, convenient, economic and energy efficient transportation systems that respect the integrity of the natural environment, including public transit options and paths for pedestrians and bicyclers.**	*Is the proposed land use plan coordinated with the transportation network? Does it discuss the connection between land use and transportation efficiency? The following ought to be considered:*	Yes	Objective 34 and 35; future land use map; objective 15	
		o Access management	Yes	Strategy 29	
		o Discouraging new roads in outlying areas	Yes	Objective 17	
		Does the Transportation chapter discuss and encourage multi-modal transportation?	Yes	Multiple; 2.3A page 2-49 and 2-51 as examples	
		Does the Transportation chapter discuss and encourage public transit?	Yes	2.3 A; page 2-49	
12	(A) Highways, air, rail and other means of transportation should be mutually supportive, balanced and integrated.	*Does the Plan discuss development of transportation connections between smaller towns and centers of employment?*	Yes	Strategies 30, 31 and 32	
		In the development of the transportation system, does the plan use good resource management and minimize or reduce negative impacts to the natural environment?	Yes	Objective 15	
		If the community has rail or air transportation, is it discussed?	Yes	Transportation chapter and northeast quadrant sections; also strategy 35	
		Does the community consider other modes of transportation when discussing expansion of transportation infrastructure?	Yes	See 2-55	
13	**5. To identify, protect and preserve important natural and historic features of the Vermont landscape, including:**				
14	(A) significant natural and fragile areas;	*Does the plan identify significant natural and fragile areas? (Note to planners: does the plan include criteria for what makes an area "significant"? Towns should be encouraged to move in this direction so that the maps and future regulations are legally defensible)*	Yes	Chapter 2.5 Green Infrastructure, beginning page 2-83	Plan incorporates work and maps from 2014 Open Space plan which maps and discusses Primary and Secondary Conservation areas. The plan includes a comprehensive review for ecological, historic, cultural, and agricultural resources.
		If identified, does the plan clearly (not vaguely) discuss how they should be preserved?	Yes	page 2-90	
		If identified, is land use proposed in such a fashion that these areas will be protected?	Yes	page 2-90	
		Does the plan discuss alternative (non-regulatory) ways to protect these areas (other than through land use regulations)?	Yes	page 2-90	

15	(B) outstanding water resources, including lakes, rivers, aquifers, shorelands and wetlands.	*Does the plan identify outstanding water resources, including lakes, rivers, aquifers, shorelands and wetlands? (Note to planners: does the plan include criteria for what makes a resource "outstanding"? Towns should be encouraged to move in this direction so that the maps and future regulations are legally defensible)*	Yes	page 2-90	Plan incorporates work and maps from 2014 Open Space plan which includes clearly defined and mapped Primary and Secondary Conservation areas.
		If identified, does the plan clearly (not vaguely) discuss how they should be preserved?	Yes	page 2-90	
		If identified, is land use proposed in such a fashion that these areas will be protected?	Yes	page 2-90	
		Does the plan discuss alternative (non-regulatory) ways to protect these areas (other than through land use regulations)?	Yes	page 2-90	
16	(C) significant scenic roads, waterways and views;	*Does the plan identify scenic roads, waterways and views? (Note to planners: does the plan include criteria for what makes a scenic resource "significant"? Towns should be encouraged to move in this direction so that the maps and future regulations are legally defensible)*	Yes	Page 2-91 through 2-94	
		If identified, does the plan clearly (not vaguely) discuss how they should be preserved?	Yes	Page 2-91 through 2-94	Guidance is given as clearly as possible in a comprehensive plan document; more specific language is appropriate for Land Development Regulations.
		If identified, is land use proposed in such a fashion that these areas will be protected?	Yes	Page 2-91 through 2-94	
		Does the plan discuss alternative (non-regulatory) ways to protect these areas (other than through land use regulations)?	Yes	Page 2-91 through 2-94	
17	(D) important historic structures sites, or districts, archaeological sites and archeologically sensitive areas.	*Does the plan identify historic structures, sites, or districts, archaeological sites and archaeologically sensitive areas? (Note to planners: does the plan include criteria for what makes a site "important"? Towns should be encouraged to move in this direction so that the maps and future regulations are legally defensible)*	Yes	Page 2-91 through 2-94	
		If identified, does the plan clearly (not vaguely) discuss how they should be preserved?	Yes	Page 2-91 through 2-94	
		If identified, is land use proposed in such a fashion that these areas will be protected?	Yes	Page 2-91 through 2-94	

		Does the plan discuss alternative (non-regulatory) ways to protect these areas (other than through land use regulations)?	Yes	Page 2-91 through 2-94	
18	**6. To maintain and improve the quality of air, water, wildlife and land resources.**				
19	(A) Vermont's air, water, wildlife, mineral and land resources should be planned for use and development according to the principles set forth in 10 V.S.A 6086(a).	*Is there a complete inventory/map of existing water resources, wildlife habitat, mineral resources and other land resources?*	Yes	2.4 Blue Infrastructure, page 2-70	Some maps are still under development; staff will report back at the time of official review.
		Does the plan discuss air quality? If so, does it describe measures to maintain and improve its quality?			
		Does the plan discuss water quality? If so, does it describe measures to maintain and improve its quality? Recommendation: Include watersheds - could be a good way to present/organize this information	Yes	2.4 Blue Infrastructure, page 2-70	
		Does the plan discuss wildlife resources? If so, does the plan describe measures to maintain and improve its quality?	Yes	2.5 A; page 2-83; page 2-87	Map incorporated through reference through 2014 Open Space Plan
		Does the plan discuss floodplain protection? If so, does the plan describe measures to maintain and improve its quality? Recommendation: Also include Fluvial Erosion Hazard maps and information.	Yes	2.4 Blue Infrastructure, page 2-70	Some maps are still under development; staff will report back at the time of official review.
		Does the proposed land use pattern maintain or improve the quality of the resources listed above?	Yes	2.4 Blue Infrastructure, page 2-70	
		Recommendation: Include reference to the All Hazards Mitigation Plan & Emergency Operation Plans. Do these plans call for any changes that should be addressed in the Town Plan?	Yes	Page 2-21	
		Does the town recognize the connection between energy, transportation and land use?	Yes	Page 2-64	
		Does the energy chapter of the plan discuss energy efficiency and renewable energy? Recommendation: Reference the VT State Residential Building Energy Code & the Commercial Building Energy Standards.	Yes	Page 2-64	

20	**7. To encourage the efficient use of energy and the development of renewable energy resources.**	*Does the plan contain policies and recommendations that encourage energy efficiency?*	Yes	Page 2-64	
		Does the plan contain policies and recommendations that encourage the development of renewable energy resources?	Yes	Page 2-64	
		Does the pattern of land use proposed in the community appear to encourage the efficient use of energy either through the proposed location of development in relation to community services, or in terms of lot layout and design?	Yes		Through several mechanisms: proximity to services, proximity to transportation, lot layout, design, southerly siting of homes.
21	**8. To maintain and enhance recreational opportunities for Vermont residents and visitors.**	*Does the plan discuss recreation and identify important recreational areas?*	Yes	Page 2-94	
		Does the land use plan encourage development that protects or harms access to or the availability of recreational activities?		Page 2-94	The plan protects and encourages access to recreational activities and promotes a threshold of recreational lands and services based on population size.
22	(A) Growth should not significantly diminish the value and availability of outdoor recreational activities.			Page 2-94	Plan goal is met.
23	(B) Public access to noncommercial outdoor recreational opportunities, such as lakes and hiking trails, should be identified, provided, and protected wherever appropriate.			Page 2-94	Plan goal is met.
24	**9. To encourage and strengthen agricultural and forest industries.**	*Does the plan discuss agriculture and forestry?*	Yes	Page 2-97	This chapter of the plan is built in large part upon the intensive work outlined in the 2013 Sustainable Agriculture and Food Security report. It is extensive and comprehensive, and supported by the community's most ardent advocates for sustained agriculture.
25	(A) Strategies to protect long-term viability of agricultural and forest lands should be encouraged and should include maintaining low overall density.	*Does the plan discuss the protection of agriculture and silviculture? If not, does it legitimately discuss why it does or cannot?*	Yes	Page 2-97	
		Do proposed densities of development appear to negatively impact the availability of workable land?	No	Page 2-97	Primary agricultural soils are identified as a primary resource and are recommended for zero development.
26	(B) The manufacture and marketing of value-added agricultural and forest products should be encouraged.	*Does the plan discuss the economic value of agriculture and forestry?*	Yes	Page 2-97	Yes, as a cost and benefit. Also incorporated via references to the Sustainable Agriculture report.
		If so, does it have viable policies and recommendations on how to encourage them?	Yes	Page 2-100	

27	(C) The use of locally grown food products should be encouraged.	*Is the availability of locally produced food encouraged in the plan?*	Yes	Page 2-100	
28	(D) Sound forest and agricultural management practices should be encouraged.	*Does the plan discuss methods of agriculture/silviculture and their potential impact on the environment?*	Yes		
29	(E) Public investment should be planned so as to minimize development pressure on agriculture and forest land	*Does the plan direct public investments such as roads and sewer systems and other infrastructure away from agricultural and forest land?*	Yes		
30	**10. To provide for the wise and efficient use of Vermont's natural resources and to facilitate the appropriate extraction of earth resources and the proper restoration and preservation of the aesthetic qualities of the area.**	*Does the plan adequately discuss the extraction of earth resources?*	Yes	Page 2-68	
31	**11. To ensure the availability of safe and affordable housing for all Vermonters.**	*Does the plan inventory the types and costs of housing in the community?*	Yes	Page 2-9	This section of the plan is under development with members of the committee who drafted the comprehensive 2013 Affordable Housing Report. We expect it will be updated in the next two weeks and will welcome a more thorough set of comments at the formal review.
		Do the proposed land use patterns or public investments in the plan support the resident's ability to have safe and affordable housing?	Yes	Page 2-9	See above.
		Does the plan adequately discuss housing and housing density throughout the community?	Yes	Page 2-9	See above.
32	(A) Housing should be encouraged to meet the needs of a diversity of social and income groups in each Vermont community, particularly for those citizens of low and moderate income.	*Does the plan have a housing section that encourages low income housing and housing for the elderly?*	Yes	Page 2-9	See above.
33	(B) New and rehabilitated housing should be safe, sanitary, located conveniently to employment and commercial centers, and coordinated with the provision of necessary public facilities and utilities.		Yes	Page 2-9	See above.
34	(C) Sites for multi-family and manufactured housing should be readily available in locations similar to those generally used for single-family conventional dwellings.				
35	(D) Accessory apartments within or attached to single family residences which provide affordable housing in close proximity to cost-effective care and supervision for relatives or disabled or elderly persons should be allowed.	*Does the plan discuss accessory apartments?*	Yes	Strategy 3	
		Does the plan discuss the availability of health care and elderly services?	Yes	Page 2-21	

36	**12. To plan for, finance and provide an efficient system of public facilities and services to meet future needs.**	*Does the plan discuss future public facility investments, or at least acknowledge that none are needed?*	Yes	Page 2-19	
		If so, does the plan discuss how these projects will be financed and how they will meet the needs of the public?	Yes		
		Does the plan discuss how it provides services to the community and whether or not they are meeting the community's needs?	Yes	Page 2-19	
		Does the town have a Capital Improvement Plan and Budget outlining timing and funding for necessary public investments to ensure efficiency and coordination in their provision?	Yes		Incorporated via reference. The CIP is reviewed and adopted annually.
37	(A) Public facilities and services should include fire and police protection, emergency medical services, schools, water supply and sewage and solid waste disposal.	*Are fire, police, emergency medical services, schools, water supply, sewage and solid waste disposal discussed adequately in the plan? Recommendation: Identify how stormwater is being managed in the municipality as well, use of low impact development practices, etc.*	Yes	Page 2-19	
38	(B) The rate of growth should not exceed the ability of the community and the area to provide facilities and services.	*Does the plan ensure that high density development occurs only where urban public facilities and services exist or can be reasonably made available?*	Yes	Page 2-96; also strategy 83, page 3-4	
		Does the plan discuss growth in relation to the provision of services and facilities adequately?	Yes	Page 2-96; also strategy 83, page 3-4	
		Does the plan speak clearly about how growth might impact these services and facilities?	Yes	Page 2-19	
		Does the plan discuss how they will control growth in a manner that allows them to phase upgrades in facilities and the expansion of services at a rate that is sustainable?	Yes	Strategy 83	
39	**13. To ensure the availability of safe and affordable child care and to integrate child care issues into the planning process, including child care financing, infrastructure, business assistance for child care providers, and child care work force development.**	*Within the childcare element of the plan, is there a discussion about the availability of childcare related to the needs of the community? Note: Child Care Resource can be a good source of data.*	Yes	Page 2-23; also strategy 23	
		Does the plan discuss how the town can make childcare more available?	Yes	Page 2-23; also strategy 23	
40	**14. To encourage flood resilient communities. Note: this will take effect on July 1, 2014.**				

41	(A) New development in identified flood hazard, fluvial erosion, and river corridor protection areas should be avoided. If new development is to be built in such areas, it should not exacerbate flooding and fluvial erosion.	*Is new development discouraged in these areas?*	Yes	Strategy 25; also page 2-22	
42	(B) The protection and restoration of floodplains and upland forested areas that attenuate and moderate flooding and fluvial erosion should be encouraged.	*Is protection and restoration of these areas encouraged?*	Yes	Strategy 25; also page 2-22	
43	(C) Flood emergency preparedness and response planning should be encouraged.	*Is flood emergency preparedness and response planning encouraged?*	Yes	Strategy 25; also page 2-22	
	Requirement	**Guideline Questions**	**Yes/No**	**Location**	**Comments**
	Contains 11 Required Elements in Sec. 4382(a)				
44	**1. A statement of objectives, policies and programs of the municipality, to guide the future growth and development of land, public services and facilities, and to protect the environment.**				
45	**2. A LAND USE PLAN, consisting of a MAP and statement present and prospective land use, indicating those areas proposed for forests, recreation, agriculture, (using 6 VSA Section 8), residence, commerce, industry, public and semi-public uses and open spaces reserved for flood plain, wetland protection, or other conservation purposes; and setting forth the present and prospective location, amount, intensity and character of such land uses and the appropriate timing or sequence of land development activities in relation to the provision of necessary community facilities and services.**	*Does the plan include future and prospective land uses - both descriptions and locations on a map?*	Yes	Future Land Use Map; Also Chapter 3, beginning page 3-1	
		Does the plan collectively indicate appropriate timing or sequence of land development in relation to facilities and services?	Yes	Already stated.	
46	**3. A TRANSPORTATION PLAN, consisting of a MAP and a statement of present and prospective transportation and circulation facilities showing existing and proposed highways and streets by type and character of improvement, and where pertinent, parking facilities, transit routes, terminals, bicycle paths and trails, scenic roads, airports, railroads and port facilities, and other similar facilities or uses, with indications of priority of need.**	*Does the plan include an inventory of existing roads and other transportation facilities?*	Yes	Page 2-44	Some maps are still under development; staff will report back at the time of official review.
		If relevant, does the plan indicate the transportation problems in the community and the relative seriousness of those problems?	Yes	Page 2-44 and page 2-56	
		If relevant, does the plan include possible solutions that the community can work toward, as specified by this element?	Yes	Page 2-56	
		Is the plan consistent with the currently adopted Metropolitan Transportation Plan?	Yes		

47	**4. A UTILITY AND FACILITY PLAN, consisting of a MAP and statement of present and prospective community facilities and public utilities showing existing and proposed educational, recreational and other public sites, buildings and facilities, including hospitals, libraries, power generating plants and transmission lines, water supply, sewage disposal, refuse disposal, storm drainage and other similar facilities and activities, and recommendations to meet future needs for community facilities and services, with indications of priority of need, costs and methods of financing.**	*Does the plan indicate the location, character, and capacity of existing community facilities and public utilities as referenced in this element?*	Yes	Page 2-19	
		Does the plan describe how changes in population will affect the need for services and facilities, indicating the priority of need?	Yes	Page 2-38	
		Does the plan indicate the recommended prospective facilities to meet future needs, indicating their estimated costs and methods of financing?	Yes	Page 2-36	
48	**5. A statement of policies on the PRESERVATION of rare and irreplaceable natural areas, scenic and historic FEATURES AND RESOURCES.**	*Does the plan include one or more policy statements that document the community's commitment to take steps to ensure the preservation of the rare and irreplaceable features and resources in keeping with the goals of 24 VSA 4302? Recommendation: Include features from surrounding municipalities on your natural resource maps (and other maps if it makes sense to)?*	Yes	See item 17 above.	
49	**6. An EDUCATION FACILITIES PLAN consisting of a MAP and a statement of present and projected uses and the local public school system.**	*Does the plan include statements and maps that collectively indicate the location, character and capacity of existing and prospective educational facilities?*	Ongoing		Some maps are still under development; staff will report back at the time of official review.
		Does the plan describe the ability of the local public school systems to meet the needs of children and adults, with specific reference to attendance trends, school facilities, and future needs?	Yes	Page 2-31	
		While not required, it is encouraged that this element be written in conjunction with local school boards.			
50	**7. A recommended program for the IMPLEMENTATION of the objectives of the development plan.**	*Does the plan include statements that identify programs the municipality expects to use to address the objectives in the plan?*	Yes	1.3, page 1-10	
		When known funding, timeframe and responsible party can be helpful within the implementation element.			

51	**8. A statement indicating how the plan relates to development trends and plans for ADJACENT MUNICIPALITIES, areas and the REGION developed under Title 24.**	*Does the plan include statements that collectively indicate that the municipality examined and considered development trends for the municipality, adjacent municipalities and the region?*	Yes	Throughout.	Plan carefully examined and is compliant with regional plan.
52	**9. An ENERGY PLAN, including an analysis of energy resources, needs, scarcities, costs and problems within the municipality, a statement of policy on the conservation of energy, including programs, such as thermal integrity standards for buildings, to implement that policy, a statement of policy on the development of renewable energy resources, a statement of policy on patterns and densities of land use likely to result in conservation of energy**	*Does the plan include an analysis of energy resources, needs, scarcities, costs and problems within the municipality?*	Yes	See Item 20 above.	
		Does the plan include an energy conservation policy and programs to implement that policy?	Yes	See Item 20 above.	
		Does the plan include a policy on the development and use of renewable energy resources?	Yes	See Item 20 above.	
		Does the plan include a policy on how future development in the municipality can support energy conservation — both in terms of individual buildings and general land use patterns?	Yes	See Item 20 above.	
53	**10. A HOUSING ELEMENT that shall include a recommended program for addressing low and moderate income persons' housing needs as identified by the regional planning commission pursuant to Section 4348a (a) (9) of Title 24.**	*Does the plan include an inventory of the existing housing stock that identifies the number of housing units in each major type of housing in the community based on recent data?*	Yes	See item 31 above	
		Does the plan compare the existing housing stock with recent population trends (such as changes in total population, households, and household size?		See item 31 above	
		Does the plan assess the ability of municipal residents to reasonably afford safe, well-constructed, and efficient housing?		See item 31 above	
		Does the plan identify progress and/or implementation steps toward Regional Plan strategies and actions regarding housing? (NOTE: this will not come into effect until the new Regional Plan (aka ECOS Plan) is adopted)		See item 31 above	
54	**11. An ECONOMIC DEVELOPMENT ELEMENT that describes present economic conditions and the location, type and scale of desired economic development, and identifies policies, projects, and programs necessary to foster economic growth.**	*Does the plan identify present economic conditions and the location, type and scale of desired economic development, and identifies policies, projects, and programs necessary to foster economic growth?*			This area needs additional thought and text. Staff is working with the PC to work through this section and will have a revised section prior to formal review.
55	**(12)(A) A flood resilience plan that: Note: this will take effect on July 1, 2014.**		Yes		

56	(i) identifies flood hazard and fluvial erosion hazard areas, based on river corridor maps provided by the Secretary of Natural Resources pursuant to 10 V.S.A. § 1428(a) or maps recommended by the Secretary, and designates those areas to be protected, including floodplains, river corridors, land adjacent to streams, wetlands, and upland forests, to reduce the risk of flood damage to infrastructure and improved property; and	*Does the plan identify flood hazard and fluvial erosion hazard areas, and designate these areas to be protected (including floodplains, river corridors, land adjacent to streams, wetlands, and upland forests) for the purposes of reducing the risk of flood damage to infrastructure and improved property?*	Yes		
57	(ii) recommends policies and strategies to protect the areas identified and designated under subdivision (12)(A)(i) of this subsection and to mitigate risks to public safety, critical infrastructure, historic structures, and municipal investments.	*Does the plan recommend policies to protect these areas and mitigate risks to public safety, critical infrastructure, historic structures and municipal investments?*	Yes		
58	(B) A flood resilience plan may reference an existing local hazard mitigation plan approved under 44 C.F.R. § 201.6.	*Does the municipality have an existing local hazard mitigation plan approved under 44 C.F.R. § 201.6, and if so is it referenced in the Plan?*	Yes		
	Requirement	**Guideline Questions**	**Yes/No**	**Location**	**Comments**
	Compatible with the Current Regional Plan, Chap 117, Sec 4350(b)(1)(B)				
59	Planning areas				
60	Goals and strategies				
	Requirement	**Guideline Questions**	**Yes/No**	**Location**	**Comments**
	Compatible with Plans in other municipalities, Chap 117, Sec 4350(b)(1)(C)				
61	Land use				
62	Goals and objectives				
	Requirement	**Guideline Questions**	**Yes/No**	**Location**	**Comments**
	Confirm planning process, Chap 117, Sec 4350(a)				
63	1. Continuing planning process resulting in approved plan				
64	2. Maintaining efforts to provide local funds for municipal & regional planning				

CHITTENDEN COUNTY RPC
Communities Planning Together

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MEMORANDUM

TO: Department of Planning and Zoning, City of South Burlington
FROM: Emily Nosse-Leirer, Planner
DATE: June 23, 2015
RE: Draft Comprehensive Plan
CC: Planning Advisory Committee

I've reviewed the draft City of South Burlington Comprehensive Plan: 2016-2021, in preparation for the Planning Advisory Committee meeting on July 8, 2015.

I understand that this is an initial draft of the Plan, and that the City sought comments from CCRPC staff and the PAC with the intention of incorporating them before South Burlington's Planning Commission conducts local hearings. With that in mind, I offered both specific suggestions and identified broad issues that could be addressed in future edits.

Strengths

- The format is very readable, and the "Overview" section at the beginning of each chapter was very helpful in framing the issues and offering a good summary.
- The plan acknowledges that the goal of "compact village centers surrounded by rural countryside" is unrealistic given their past development patterns and their unique spatial nature in the context of Vermont, but the discussion of conservation, infill development, reinforcing the "City Center" district and improving the ease of use of alternative transportation is more than enough to demonstrate the city's commitment to being sustainable, aesthetically pleasing and well-planned
- Though Appendix A evaluation matrix makes a point of discouraging new roads in outlying areas, the plan justifies its need for new roads in certain already-developed areas
- The future land use section is comprehensive and clear, and splitting the city into quadrants to discuss the unique needs and futures of each area made the plan readable and easy to understand.
- Overall, it's obvious that a great deal of thought and hard work went into the plan.

Specific Suggestions and Questions (Also Included as Plan Annotations)

- There isn't much reference in the Population section (page 2-3) to the racial/ethnic demographics of the city or to income distribution. This information would help paint a richer picture of the city.

- CCRPC will be updated its county-wide All Hazards Mitigation Plan and all town annexes by August 2016, so the "Mitigation" section on page 2-21 should be updated to reflect this
- In Section 2.2 there are a few instances where tables split paragraphs or sets of bullet points. I assume this is an issue of formatting that will be fixed in the final plan, but I think moving the tables to the end of the paragraphs/bullets would make it easier (e.g. 2-4)
- Given the age of the housing stock, is lead paint a concern? (Page 2-10)
- My understanding is that the ratio of employment to population is usually given with the unemployment rate for a more complete picture, since the ratio includes those who are not in the labor force (Page 2-15).
- There's a comprehensive description of Lime Kiln Park on page 2-30. If the park referred to on page 2-72 is the same park, mentioning the name will help the reader draw connections.
- In section 2.6, most of the actions and policies listed are ongoing: "Continue to develop," "Maintain," etc. However, the last of "Grey Infrastructure" and the first in "Green Infrastructure" do not have this form and it's not clear if these are achievements/ongoing actions or if they're proposed future actions and should be moved to another place in the plan
- Should the first ongoing action under "Blue Infrastructure" also reference the Clean Water Act as signed in June 2015?
- Guidance on solar facility siting is clearly given (page 3-36). Is there anywhere a wind facility could conceivably be installed in South Burlington? If yes, perhaps guidelines should be given related to that as well.
- There are a few outdated references in the plan:
    - CCRPC no longer has specific housing targets for the Region, but generally encourages housing development in growth areas
    - The solid waste section doesn't mention the Universal Recycling law, which will start to take effect July 2015, and so the descriptions of solid waste policies are inaccurate.

General Issues

<u>Prioritization of Strategies</u>

There are 129 strategies for implementation. It would probably be very helpful for readers—and for the city—if these were prioritized in some way. This prioritization could take the form of a top ten list, assigned timetables, or something else.

<u>Legal Defensibility</u>

The plan mentions scenic views, natural resources, watersheds, ground water sources and other features as important to the community. However, to increase the legal defensibility of

your guidelines, you might consider more use of the words “significant” in terms of scenic views and natural areas, and “outstanding” in terms of watersheds, ground water, etc. From our review guidelines:

- Does the plan include criteria for what makes a resource “outstanding”? Towns should be encouraged to move in this direction so that the maps and future regulations are legally defensible.
- Does the plan include criteria for what makes a scenic resource “significant”? Towns should be encouraged to move in this direction so that the maps and future regulations are legally defensible.

The Relationship between Household Income and Housing

The discussion in **“**Household Income” on page 2-6 was confusing for me. It makes two statements:

1. The median household income is $73,800
2. But a household with two workers making the city’s average wage would only make 80% of that ($59,040).

So, are most of the people who work in South Burlington living outside the city and most South Burlington residents work outside the city? The section about commuting does state that many workers in South Burlington come from more rural areas, but is this because they can’t afford to live in South Burlington? If so, this should be discussed in the “Housing” section starting on page 2-9.

How do those workers get to their jobs? Public transit? Carpooling? Single-occupancy vehicles? This could be tied more clearly to the discussion of commuting patterns on page 2-15. (However, I was glad to see Strategy 15 on page 2-18 mention that transportation costs should be included in calculations of affordability.)

The section also mentions (page 2-6) that a single person working full time at a minimum wage job would be considered very low income, but offers no context for that statement. What percentage of South Burlington residents are very low income or low income? Can people afford to live in South Burlington with that low level of income? It would be useful to have the average wage tables updated with the most current available data, and also to have an understanding of income distribution in the city.

Educational Capacity

Currently, it’s unclear whether the schools are over capacity or whether new schools will be built. Any current/ongoing analysis of educational facilities should be referenced in the plan.

The discussion of educational capacity on page 2-32 was confusing to me. Are the listed school capacities for additional students or total students? For example, if the capacity of SBHS is 750

students but there are currently 937 students enrolled, does that mean that the school is 187 students over capacity? It's unclear because on page 2-35, it says that "some of the city's schools are near or operating at their program capacity." However, if they are over capacity, that seems like a serious issue that deserves more discussion.

Page 2-34 to 35 says that 90% of capacity is an action point at which new facilities will be considered, but this should be tied to page 3-38, where it is mentioned that the district is starting to examine the feasibility of a new elementary school in the SEQ. The progress being made on that school could also be clearer. A scoping study was done, but will construction go forward? How many students will the school serve, and does this indicate that SBHS will be even further over capacity when those elementary students are older?

Parks and Recreational Areas

There are two places where parks and recreation are discussed. First there is a section on "Land, Parks, Natural Areas" within the City on Page 2-24, which has a very comprehensive list of all of those features. However, parks and recreational areas are also discussed under "Section C. Recreation Resources" starting on page 2-94, and that's where the future trends and needs are discussed and objectives and strategies related to recreation are outlined. It almost seems as though the first section (from page 2-24) could be merged with the section on page 2-94, which would also bring the discussion of land, parks, and natural areas into the same part of the plan as discussion of agriculture.

Placemaking

As a whole the plan is extremely readable, but I found the paragraph on "Placemaking" on page 3-8 a little awkward. What does "Make a there here" mean? I also found the following sentence confusing:

> "Placemaking will foster the creation of a destination built from community interests, of the community's goals, and for a true community destination."

Perhaps something like this would be clearer:

> "Placemaking will use the community's goals and interests to create a true community destination."

Flood Resilience and "Blue Infrastructure"

I think that the plan would benefit from a more cohesive flood resilience section. As it stands, it's not clear that the "Flood Resilience" section on page 2-22 will satisfy statutory requirements.

I understand that flood resilience is connected to emergency response and preparedness, but having a paragraph about flood resilience on page 2-22 and not discussing the issue again until the "Stormwater" section under 2.4 "Blue Infrastructure" made it a little difficult to follow. I

suggest that the discussion of flood resilience be moved to the "Blue Infrastructure" section and given more detail. The watershed inventory there is already comprehensive. Under "Analysis and Challenges," stream channels and riparian buffers are mentioned, but I think the section would benefit from a discussion of fluvial erosion hazard areas and floodplains—what they are, where they are located in the city, if they pose a threat to any current development. An objective or strategy related to flood resilience in the "Water" section on page 2-76 would also be helpful.

I also sent you two examples of flood resilience sections. One is from Essex Junction and is based on the regional All Hazard Mitigation Plan, the other is from Essex Town and is based on the EPA guide for flood resilience. They both have short explanations of the various terms and strategies, list what the towns have done to promote flood resilience, and have goals or strategies for flood resilience.

There's also a discussion of water quality on page 2-74 in the same section. With the passage of H35 (the Vermont Clean Water Act), all plans must now include a discussion about water quality that mentions the basin plans from DEC (see below). While it is unclear when this requirement will take effect, CCRPC recommends including it in your plan at this time to be prepared.

> 24 V.S.A. Section 117 § 4302 Goal 6 (B): Vermont's water quality should be maintained and improved according to the policies and actions developed in the basin plans established by the Secretary of Natural Resources under 10 V.S.A. § 1253.

Typos

- Page 2-1: "The consultants put together an online survey which ~~is~~ was advertised on Front Porch…"
- Page 2-18: "Strategy 15. Recognize that affordability is comprised of more elements than housing ~~slae~~ sale price or lease…"
- Page 2-25: Passive recreation areas such as ~~tracks~~ tracts of lands
- Page 2-25: Citywide Parks, Lands & Facilities. Citywide parks and natural areas are those owned and designed
- Should the "University of Vermont Lands" heading on page 2-27 not be a bullet point?
- Is there a description of Quail Run Neighborhood Park that can be included on page 2-30? It's the only one without.
- Is there a reason some text is underlined under "Vermont National Golf Course" on page 2-31?
- I had never heard of a "tot lot" before, and a quick poll of the office revealed that most people here hadn't either. You might consider using a different phrase on page 2-30 under "Szymanski Park"
- Page 2-34: It seems like a mistake that the first paragraph of "Primary and Secondary Schools" is indented and bulleted.

- Page 2-38 "…essential component of the city's quality of life. Accessible schools minimize the need…"
- Page 2-39: "Strategy 25. Implement identified projects within the All Hazards Mitigation Plan including river corridor management."
- Page 2-46: "Sidewalks exist at the southern end of Patchen Road"
- Page 2-47: "…while White Street is under-served ~~under-served~~ by sidewalks, with none…"
- Page 2-68: "…located near I-89 towards the Williston town line, owes its origin~~a~~s to the…"
- Page 2-69: "…expected that new quarries or large scale forestry operations will be estab~~i~~lished in the…"
- Page 2-79: "In older neighborhoods, relatively compact housing ~~have~~ has allowed for greater efficiencies…"
- Page 2-82: "The ~~he~~ city has recognized that…"
- Page 2-87: "…undeveloped areas that were used for active farm and forestry operations provided habitat…"
- Page 2-92: "Cultural organizations in the city include places of worship, service…"
- Page 2-97: "…in the 1930s, the number and scale of farms ~~initiated its~~ began to decline…"
- There are a large number of unnecessarily capitalized words under section 2.6 (ex. "Continue to Collaborate with…"
- Page 3-2: there's a missing space in the first line
- Page 3-3: "The 1991 Plan reinforced these goals and added another: to increase efforts to protect…" and "…many of these recommendations. An Open Space Strategy was completed in 2001 and…"
- Page 3-8: "…Dumont Park. In addition to these, gateway artwork and gathering points are…"
- Page 3-13: "In 2015, the City, in collaboration with the CCRPC, School District, and Airport, initiated a Chamberlin Neighborhood ~~Apirport Visioon~~ Airport Vision & Plan project."
- Page 3-15: "The repercussions of the growth in use at the airport ~~extent~~ extend beyond the immediate…"
- Page 3-17: I'm not sure that "Federal Military" should be capitalized here as it is not a specific reference to Army, Navy, etc. and there is a missing R in strategy 108 ("poject").
- Page 3-19: "…Concept Plan; among the ideas evaluated ~~were~~ was the creation of a warehousing…"
- Page 3-23:
    - "South of IDX Drive, the Shelburne Road corridor becomes predominately commercial…"
    - "Conservation and Lakefront Access. Several large properties remain~~s~~ along…"

- Page 3-24: “Safe and Inviting Access to Shelburne Road from Adjacent Neighborhoods.
- Despite its proximity to residential neighborhoods to the east and…”
- Page 3-30: “Veterans” is misspelled

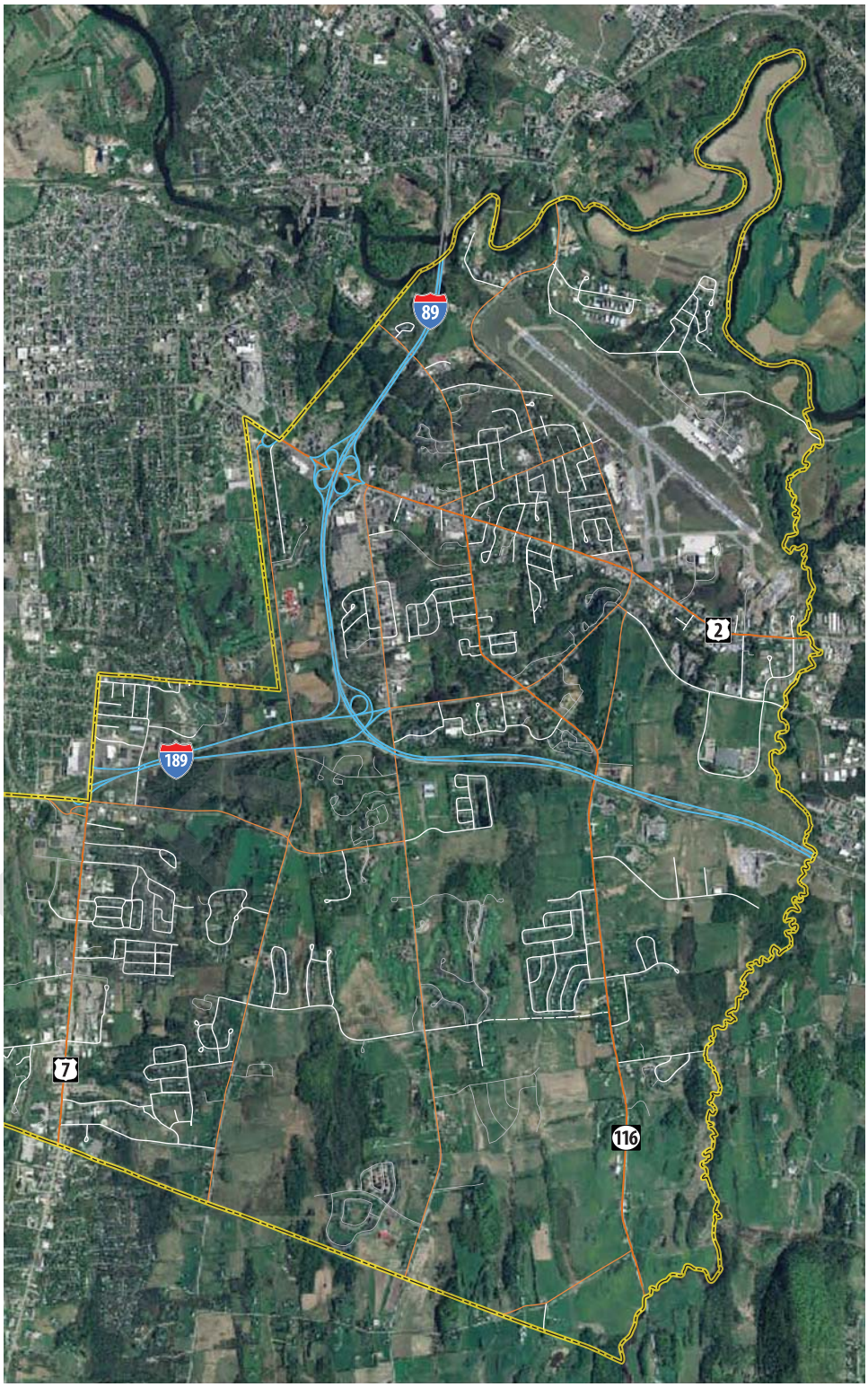
comprehensive plan

2016 to 2021

southburlington

VERMONT

Acknowledgements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189
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1.1. The Vision

Vision Statement

South Burlington shall strive to have a sustainable quality of life and a vibrant sense of community.

Goals of the Community

South Burlington will achieve its vision by continually challenging itself to balance the following community-wide goals. The city will:

Goal 1. Be affordable, with housing for people of all incomes, lifestyles, and stages of life;

Goal 2. Establish a city center, with pedestrian-oriented design, mixed uses, public buildings and civic spaces, that acts as a focal point to the community;

Goal 3. Conserve the City's important cultural and open space resources, including air, surface and ground water quality; natural communities and wildlife habitat; agricultural land and primary agricultural soils; scenic views, landscape features, recreational assets, and historic sites and structures;

Goal 4. Develop a safe and efficient transportation system that supports pedestrian, bicycle, and transit options while accommodating the automobile;

Goal 5. Provide effective education, public safety, infrastructure, health, wellness, and recreation services alongside transparent and accessible government operations;

Goal 6. Reduce energy consumption and increase renewable energy production city-wide;

Goal 7. Support a diverse and vibrant economy built on quality jobs, employment centers and a supportive educational and research system;

Goal 8. Encourage a wide diversity of large and small scale agriculture and food production in suitable locations throughout the city, and support markets for local agricultural and food products.

Goal 9. Prioritize development that occurs within the community into areas served by existing infrastructure, generally consisting of the Shelburne and Williston Road corridors, City Center, and others identified within this Plan;

Goal 10. Be a supportive and engaged member of the larger regional and statewide community; and,

Goal 11. Create a strong sense of place; highlight unique features and maintain the quality of life of existing neighborhoods.

1.2. The City

A. General Description

The City of South Burlington covers approximately 10,600 acres in the western part of Chittenden County. It is bounded to the northwest by Burlington, the largest city in Vermont. The Winooski River is the northern boundary between South Burlington, Colchester and Essex. To the east, Muddy Brook runs the entire length of South Burlington and separates the city from Williston. Shelburne bounds the city on the south. The southwest section of the city lies on Lake Champlain with 12,000 feet of shoreline.

South Burlington is a regional employment, trade, housing, and transportation center. It is also home to substantial natural resources and recreational facilities and programming, a high quality elementary, secondary, and higher education school system, and vibrant neighborhoods.

Two major elements contributing to South Burlington's regional and state prominence are its retail and commercial areas and its arterial transportation network. This network includes Vermont's largest airport and direct access to Interstates 89 (I-89) and 189 (I-189). It is traversed by two arterial highways, one railway, and has nearby destination points for large ferry routes.

A combination of newer and long-established neighborhoods serving a population that is increasingly diverse in its socioeconomic and ethnic composition exist throughout the city and are connected through both roadways and a growing recreational path system.

The city's quality public school system is supplemented by the proximity to the University of Vermont, three private colleges and the Community College of Vermont. A major healthcare institution, the University of Vermont Medical Center, along with a contingent of family doctors and specialists in the area, provide excellent healthcare services.

In addition to these amenities, South Burlington's spectacular scenic and recreational setting adjacent to Burlington's downtown amenities and urban core add to a strong quality of life for South Burlington as well as the entire region.

Before Becoming a City

South Burlington's geographic location, natural resources, and natural features have made it a desirable place for settlement since prehistoric times. South Burlington lies between Lake Champlain, the Winooski River, and the Shelburne Pond watershed. South Burlington's location between these major drainage areas and bodies of water, as well as its natural resources, made the area naturally suited to occupation throughout

prehistoric times. There is archaeological evidence that suggests human populations occupied the area as early as 8000 BC.

With the arrival of European settlers at the close of the 18th century, South Burlington was transformed into a farming community. The area is well suited to agriculture due to its gently rolling, fertile soils. Industrial activity also arose around Winooski Falls and the natural lime rock was extracted and refined through kilns. Monkton quartzite was quarried from the eastern edge of the town and utilized in many Burlington foundations. The introduction of the Winooski Turnpike (now Williston Road) and a stagecoach route along what is now Hinesburg Road made South Burlington a central location in the early years of the 19th century. Some taverns and other commercial structures sprang up sporadically along these transportation routes.

Initially development was hampered by shared services and utilities with Burlington, which grew to be the financial and service center of the area. In 1865, South Burlington separated from Burlington to form a new town. For many years, Burlington continued to be South Burlington's business district. Farmers brought their goods to Burlington and exchanged for manufactured goods. The introduction of the railroad along the shores of Lake Champlain brought tourists to the area. Queen City Park became a popular religious summer camp and eventually developed a railroad stop of its own and the Burlington Trolley line was extended to service the area in the closing years of the 19th century.

Growth continued slowly for South Burlington through the first years of the 20th century. With the introduction of the automobile, development shifted to major roads such as Williston Road. In 1919, work was begun on the airport which would become the Burlington International Airport. South Burlington began to become a transportation hub for Chittenden County. With the post World War II economic expansion, development took off in both the commercial/industrial and residential sectors. Major residential developments close to the airport, begun prior to World War II, were quickly constructed after the war during the 1940s and 1950s.

The community adopted zoning in 1947 in an effort to provide order to the exploding growth. Between 1940 and 1950, the city's population more than doubled. Pre-war efforts to extend municipal water services from Burlington came to fruition along Williston Road. Between 1950 and 1960, the population doubled again. Many service-oriented businesses sprang up along Williston Road and Shelburne Road. Diners, motels, restaurants, as well as retail shops and offices began to line these popular strips. Many roadside businesses developed distinctive designs and signs to stand out to the motorist. Farmland was quickly converted to dense development. Conversely, areas such as Southeast Quadrant and the lakeshore saw little development during this time period.

South Burlington formally was granted city status in 1971. Since that time, as the Social Infrastructure Chapter will illustrate, the population of the city has grown to 17,904 (2010 Census), as has the employment base, amount of conserved natural areas, parkland, recreational paths, and community services available.

In the spring of 2015, South Burlington began the Community Identity Project to better understand how the community, its workers, and neigbors viewed the city. A major goal includes fashioning material that could be used to clearly, succinctly and consistently articulate community identity, pride, strength and direction.

The remainder of this plan will address the contemporary opportunities and challenges of balancing continued growth, new development, re-development, and changing demographics within the city, with the city's identified goals.

1.3. The Plan

Overview

The Comprehensive Plan is a framework and guide for accomplishing community aspirations and intentions. It states goals and objectives and recommends courses of action for future growth, development, and conservation of land, public facilities and services, and environmental protection. This plan presents a vision of how the city desires to evolve in the coming 20 years. It is based upon inventories, studies, analyses of current and projected trends, and most importantly, the desires of the community. The plan is implemented through various city ordinances and regulations, involvement with state and federal agencies, fiscal practices, and through the actions and lives of city residents and business owners.

This plan recommends a number of actions and practices that should be undertaken by the city and community to help achieve the goals and objectives of the plan. It is important to note that these recommendations are not mandates, but are suggestions to help guide the operations of the city and its citizens. This plan and its recommendations are intended to aid the city as it prepares and adopts regulations, prepares capital budgets and annual work programs, and forms citizen committees to study a particular concern. These recommendations shall be implemented only after considerable thought, discussion and analysis.

This plan is organized into four sections:

- **Introduction.** This section provides a brief overview of the city, this plan and South Burlington's planning history. It highlights the city's most important goals.
- **Community Assessment.** This section includes a description of the city's current condition, resources and character, identification of needs and concerns, and analyses of critical issues facing the city, categorized by social, gray, blue, and green infrastucture. Each section also highlights city objectives, and strategies to achieve those objectives.
- **Future Land Use.** This section includes more geograhically specific assessment of the city's districts, with land use objectives and strategies that are unique to certain city districts.
- **Attachments.** This includes maps, data and additional resources developed as part of the plan update.

Authority and Purpose

The authority to prepare and implement the comprehensive plan is granted to the city through the Vermont Planning and Development Act, Title 24 of the Vermont Statutes Annotated, Chapter 117. It is the purpose of the Act to "... encourage the appropriate development of all lands in this state... in a manner which will promote the public health, safety against fire, floods, explosions and other dangers ... and to provide means and methods for the municipalities and regions of this state to plan

for the prevention, minimization and future elimination of such land development problems as may presently exist or which may be foreseen and to implement those plans when and where appropriate."

The Vermont statutes also specifically detail a series of elements that are required to be included in any local plan, and include a series of statewide planning objectives which local plans are encouraged to be consistent with.

Planning Process

The development of this plan involved extensive participation between the citizens of South Burlington, city officials, regional entities and the business community. It has evolved into its present form based largely on committee work, special studies, policy formulation, discussion and debate conducted over the last 40 years in the development and adoption of previous comprehensive plans.

In addition to citizen participation forums, the Planning Commission has held numerous public meetings to review, discuss and debate the various sections of the plan. The drafting of these sections has involved considerable input by city officials and the School District; various committees such as the Natural Resources Committee, Recreation Path Committee, Energy Committee, Recreation-Leisure Arts Committee, Library Board; regional entities such as the Chittenden County Regional Planning Commission, Champlain Water District, and Chittenden County Transit Authority; and private organizations such as local builders, the South Burlington Land Trust, and others.

The extensive public input that forms the lifeblood of this plan did not begin or end with the first full draft published. The plan is always present, and multiple hundreds of stakeholders have contributed throughout the five year period leading up to its date of publication.

Public input has been gathered in all forms, from formal public meetings and hearings before the Planning Commission, to meetings of special project-focused committees, to individual direct and indirect citizen input. A substantial portion of this plan was refined through the committees formed in 2012 to develop subject-specific reports: Affordable Housing, Open Space, and Sustainable Agriculture. Each of these committees held several targeted and well-attended community meetings, and discussion sessions. Stakeholders participated in ice-cream socials held on site in City parks, and residents stopped to talk about issues during visits to the community farmer's market. Each ultimately produced a report which provided direct feedback to be incorporated into the City's plan.

Other reports and studies include: extensive outreach and documentation associated with the City's bid for the Georgetown University Energy Prize; a Public Facilities Taskforce led to a recommendation for public space within the City Center; the Arrwowood Environmental Study provided valuable science-based knowledge of key water and wildlife resources in the Southeast quadrant; a 2015 branding study sought

to establish the desired identity and marketing strategy desired by the city's business owners, employees, and residents. From this, South Burlington identified a set of materials (identity statement, graphic, tag line) that could be used in communications within and outside the City (and not necessarily just by the City itself), to build pride, to articulate opportunities and help people inside and outside the community understand what South Burlington means.

The city participated in and has incorporated varius elements of the Regional Plan; an ongoing study directed by the School Board seeks to plan for the future programming and facility needs of all South Burlington schools; work towards Tax Increment Financing plan and district has highlighted key city priorities; an ongoing study in the Chamberlin area will provide a unique opportunity to build a plan for the area in greater depth than has been seen in more than 50 years, while simultaneously seeking to build a strong and integral relationship between the neighborhood and the state's largest airport.

Specific plans currently underway or recently completed include management plans for Red Rocks Park and the Wheeler Nature Park. The community recently provided extensive feedback towards the use of the recently-acquired Underwood parcel on Spear Street.

Electronic methods of outreach have never been more utilized in South Burlington. Feedback was solicited and provided via a dedicated website, The Path to Sustainability. A Power of Ten exercise provided a digital conduit for people to share thoughts and ideas about favorite places, problem areas, and other City notes. Recreation and school newsletters shared word of the plan and its components. Front Porch Forum has been helpful in reaching thousands of city households.

The input involved in developing the plan will be continued in its implementation. In addition, the Vermont Planning and Development Act requires the comprehensive plan to be updated and readopted every five years. This is important to address change that is so prevalent in our lives. Even before the five-year limit, the city will continue to reevaluate this plan and implementation process in order to best assure a quality living environment and future for the residents and visitors of South Burlington.

Planning History

In the face of urban pressures, changing land uses and expanding needs, South Burlington has attempted to plan and control development and the use of land and water. The first zoning ordinance was adopted in 1947. It zoned the town into residential, business and industrial districts. The Official Municipal Plan adopted in 1953 was the first such plan in the State of Vermont. It delineated new streets with services, schoolhouses, playgrounds and public buildings. The 1947 Zoning Ordinance was amended to implement the plan.

In 1962, a Comprehensive Plan was drawn up by the firm of Sargent-Webster-Crenshaw and Foley, of Syracuse, New York and approved by the voters. Suggested in this

plan were several capital improvement guidelines for development. A new Zoning Ordinance was approved in 1964 based on the 1962 plan. It separated the town into two types of residential districts, two types of business districts, an industrial district and a planned district. The Comprehensive Plan was amended in 1962 with the assistance of Larry Moore, Technical Planning Associates of New Haven, Connecticut. The plan incorporated a Conservation and Recreational Plan - the first in Vermont - that was produced by the Chittenden County Natural Resources Committee. That study is the basis of South Burlington's recent efforts to preserve a quality environment in the community.

During the 1960s South Burlington was the fastest growing municipality in the State of Vermont and this rapid growth intensified the problem of providing sewage disposal, streets, traffic control, fire and police protection, schools, sanitary landfill and other municipal services. A new Comprehensive Plan in 1974 responded to this rapid growth rate with a growth policy that called for an increase in residential units and in population of two percent, or the rate of growth in the county, whichever was greater.

During the 1970s, South Burlington's population increase slowed considerably. Residential construction, consisting almost entirely of multi-family units, increased rapidly during the late 1970s. Also, commercial activity had been substantial and several major industries (Digital, New England Telephone and Semicon) located in the city.

During the period between the 1981 Comprehensive Plan and the 1985 plan, the plan itself remained essentially the same in an environment of physical, social, and economic change. The 1985 plan reflected a continuing commitment to the basic philosophy and goals of the previous plan. The changes in the 1985 plan were based on more current planning data and the experience gained by the various city boards and commissions in encountering planning issues. The magnitude of the change during this period within and around South Burlington strongly suggests the need for a continuing comprehensive planning effort. In 1987, this plan was amended to include a discussion on a proposed city center for the Dorset Street area.

The 1991 Comprehensive Plan continued to promote the general philosophy of those goals and recommendations contained in the 1985 plan. However, greater emphasis and fine-tuning was placed on certain important issues facing the community. These included strengthening the city's desire for a City Center, preserving the special character of the Southeast Quadrant, and encouraging the transformation of the city's Williston Road and Shelburne Road corridors into a more attractive, mixed-use, traffic safe environment.

In 1996, the Comprehensive Plan was refined to respond to continuing growth in the city which required renewed planning efforts to maintain the adequacy of municipal services, to direct residential, commercial, and industrial growth to appropriate areas, and to respond to traffic and other problems that have resulted from development patterns of previous years.

The 2001 Comprehensive Plan was formulated to address the continued planning efforts of the city and also to address the new initiatives undertaken. The process of

developing this 2001 update to the comprehensive plan began with a unique city wide planning process involving hundreds of citizens. Studies and planning work completed by the Planning Commission from 2000 through 2006 directly carried out many these recommendations. An Open Space Strategy was completed in 2001 and was followed by three Southeast Quadrant studies: The Ecological Assessment and Bird Habitat Study (2004), and a new master land use plan for the SEQ (2005).

The 2006 Plan, readopted in 2011, included a revised and expanded chapter on the Southeast Quadrant, reflecting the results of the studies and input and complementing the zoning regulations amendments passed that same year encouraging preservation of the areas of greatest ecological significance, creating a new village center on Dorset Street around the Chittenden Cider Mill, and making public investments in a series of connected parks and paths woven around new, walkable and connected residential neighborhoods through use of a Transfer of Development Rights (TDR) program; continued implementation is strongly supported by this plan as well.

At the same time, the Chamberlin neighborhood adjacent to the Burlington International Airport has seen some of its housing stock removed due to noise impacts from the airport. Establishing a new integrated transition between these two land uses will be a focus during the next several years.

This 2016 Plan seeks to further build upon these core attributes, focusing on strengthening policies in support of the community-wide goals listed on page 1-1 of this plan.

1.4. Implementation

There are many tools and techniques available to the city which can be used to implement the Comprehensive Plan. This section describes the general mechanisms which are in place or could be developed to implement the goals, objectives and strategies of the city. Other more specific mechanisms for implementation are identified throughout the other sections of this plan. The timing and funding of the following tasks will be determined by the annual work program.

Land Development (Zoning & Subdivision) Regulations

The most commonly used bylaw for controlling development at the local level are zoning and subdivision regulations. Zoning and subdivision regulations control the use of land and structures, and the density, height and bulk of development. 24 VSA Chapter 117 spells out specific requirements and limitation of any municipal land development regulations. The statutes also provide multiple optional tools that communities enact under zoning and subdivision, including, but not limited to:

- Establishment of zoning and overlay districts
- Site plan and conditional use standards
- Performance standards
- Inclusionary zoning
- Waivers
- Planned unit development
- Transfer of development rights

Many of these tools are presently used with the South Burlington Land Development Regulations, including specific overlay districts dedicated to flood hazard protection, scenic views, interstates, design review, watershed protection, traffic, and airport approaches, and may include additional types in the future in order to implement this Plan.

Official Map

The official map is a bylaw which reserves land for streets, recreation paths, drainage, parks, schools and other public facilities. The city's official map should be completely reviewed and revised where appropriate in the context of this Comprehensive Plan.

Municipal Ordinances

Multiple municipal ordinances are used to implement the Comprehensive Plan. Among those most closely related to land use:

- Sign ordinance

- Ordinance regulating the use of public and private sanitary sewerage
- Peddlers ordinance
- Backyard chicken ordinance
- Control and prevention of fire ordinance
- Public nuisance ordinance
- Tree ordinance
- Impact Fee Ordinance

Land Acquisition

The acquisition of land will be required in order to implement several goals and recommendations contained in the plan such as for the construction of public facilities including parkland, schools, sewer and water facilities, roads and recreation paths. Land may be acquired through fee simple acquisition, conditions of subdivision approval, or donations.

Among the tools implemented by the voters is a $0.01 conservation tax that is levied on an annual basis following a public vote to establish the fund. These use of those funds is restricted to those provided by the voters.

Capital Budget and Program

The city has adopted a capital budget and program in accordance with 24 VSA Section 4426. The capital budget, the principal guide for public spending, describes the capital projects to be undertaken during the coming fiscal year, including the estimated costs and method of financing. The capital program is a similar plan of capital projects to be undertaken during each of the following five years.

Impact Fees

The city has adopted an impact fee program in accordance with 24 VSA Chapter 131. Impact fees are a means by which developments are required to pay for their "fair share" of public capital expenditures needed as a result of their development. Impact fees may be levied for all improvements meeting this criteria, upon adoption by the municipality. At present, impact fees are collected and used for transportation, recreation, fire, and police capital needs.

Tax Increment Financing

The city can designate certain areas of the city, such as City Center, as a tax increment financing (TIF) district. In TIFs, the cost of infrastructure improvements are funded through the tax revenue generated by development which utilizes such improvements. It is envisioned that TIFs will be an important developmental tool in the City Center.

Special Assessment Districts

Special assessment districts are designated areas in which property owners are charged to cover the costs of installing capital improvements from which the property owners will benefit. Typical improvements funded by special assessment include water and sewer service, sidewalk construction and street improvements. Special assessment districts should appear in the capital budget program.

Regional, State and Federal Coordination

The city should continue to cooperate with regional, state and federal agencies as necessary to further the goals and policies of this plan. Regional partners include, but are not limited to the Chittenden County Regional Planning Commission (CCRPC), Chittenden Solid Waste District, Champlain Water District, Champlain Housing Trust, and Lake Champlain Chamber of Commerce.

Ongoing Planning and Studies

The city shall continue to update the Comprehensive Plan as required by 24 VSA Section 4387. This plan includes within it recommendation for future action and studies to be undertaken to help implement its overall goals.

2.1. Identity

In 2013, the city worked with consultants to identify key elements of the city that the community noted for value or concern. A series of workshops and related website helped to put a geographic face on this work, identifying places in the community that residents identified as special. This process engaged residents and business owners in a broader conversation about South Burlington's identity.

In the spring of 2015, South Burlington began the Community Identity Project to better understand how the community, its workers, and neighbors viewed the city. A major goal includes fashioning material that could be used to clearly, succinctly and consistently articulate community identity, pride, strength and direction. The result of this outreach have influenced this Plan.

Stakeholders had initially identified the need for this for City Center, however, upon bringing in the consultants and seeing what they had created for other communities, it was clear to community attendees at the presentation that this was needed for South Burlington.

The consultants put together an online survey which is advertised on Front Porch Forum, via e-mail and also quite extensively in the media. The consultants held several meetings including with community leaders, with high school students, with the hospitality industry and with the community at large. They also traveled around and took pictures of the City. What are people proud of? How is the City perceived now? What about the City should be preserved? What about the City should change?

The meetings and the surveys highlighted some interesting things. Generally in the online survey South Burlingtonians value South Burlington as much as they value Burlington, but they think other people value South Burlington less than they do. The largest group of survey takers felt that the identity of South Burlington is not very distinct from that of the region.

The survey found that people generally love South Burlington, but that the lack of community pride in organizing or attending community based events make it difficult to form strong social ties outside of schools, sometimes even in neighborhoods. There are also many undersung assets, such as the airport, parks, scenic views, a sense of community and businesses and industry. Finally, it was underscored that most outsider's familiarity with the geography of South Burlington is limited to roads named for other communities – Williston Road and Shelburne Road.

The idea of "District" identity signage like Lake Shore for Shelburne Road area neighborhoods and City Center or Gateway for Williston Road neighborhoods would

highlight their positive local geographic attributes for outsiders while adding to coherency and pride of place for City residents.

The discussion of community identity is one that has only recently begun in earnest but has great momentum and is expected to have fruitful results.

2.2. Social Infrastructure

A. Population

Population is a basic index of community growth and population projections are a key element in determining a community's growth-management policies. Schools, roads, police, water and sewer, recreational opportunities, preservation of natural resources, scenic views, congestion, tax rates, and many other determinants of the quality of life are directly affected by changes a community's population. To properly assess current and future needs and impacts on city services, and other quality of life issues, the characteristics of the community's population should be evaluated.

Overview

Key issues and needs related to the city's population identified in this plan include:

- Growth in the percentage of city residents ranging from 55 to 74 years of age is a signal of future changes in the types of housing, amenities, facilities and services residents will be seeking.

Figure 3-7: Statistical Profile

	South Burlington								County	State
	1940	1950	1960	1970	1980	1990	2000	2010	2010	2010
Population	1,736	3,279	6,903	10,032	10,679	12,809	14,879	17,904	156,545	625,741
Under Age 18				4,136	2,885	2,779	3,415	3,382	31,313	129,233
% of Total Population				*41.2*	*27.0*	*21.7*	*22.8*	*18.9*	*20.0*	*20.7*
Age 65 or Older				428	812	1,336	2,067	2,887	17,685	91,078
% of Total Population				*4.3*	*7.6*	*10.4*	*13.9*	*16.1*	*11.3*	*14.6*
Households			1,790	2,750	3,819	5,178	6,332	7,987	61,827	256,442
Single Person						1,281	1,924	2,648	17,109	72,233
% of All Households						*24.7*	*30.4*	*33.2*	*27.7*	*28.2*
With Children Under Age 18						1,593	1,848	2,018	17,791	72,680
% of All Households						*30.8*	*29.2*	*25.2*	*28.8*	*28.3*
Average Household Size				3.49	2.69	2.42	2.31	2.19	2.37	2.34
Housing Units	525	933	1,273	2,879	3,972	5,437	6,498	8,429	65,722	322,539
Owner Occupied				2,089	2,832	3,709	4,351	5,186	40,310	181,407
% of All Housing Units				*72.6*	*71.3*	*68.2*	*67.0*	*61.5*	*61.3*	*56.2*
Renter Occupied				661	987	1,469	1,981	2,801	21,517	75,035
% of All Housing Units				*23.0*	*24.8*	*27.0*	*30.5*	*33.2*	*32.7*	*23.3*
Detached Units						2,891	3,379	3,747	36,894	229,116
% of All Housing Units						*53.2*	*52.0*	*47.7*	*58.0*	*72.9*
Attached Units						2,396	3,114	4,113	26,686	85,053
% of All Housing Units						*44.1*	*47.9*	*52.3*	*42.0*	*27.1*

Source: US Census

- Continuation of the decline in average household size and increases in the number of single-person households will keep demand for housing units growing at a rate faster than overall population growth.
- As people continue to move into the city, ongoing efforts will be needed to welcome and connect new residents with their community - both at the neighborhood and city level.
- Residential development needs to be monitored on an ongoing basis and measures taken as necessary to maintain the expected average annual growth rate in the city's population of 1.5 percent as measured over any 10-year period.

Inventory

Growth Rate. South Burlington's population began to grow rapidly in the 1940s with the development of post-war residential suburbs. The rate of growth remained very high throughout the 1950s and 1960s, when the city added more than 3,000 residents each decade. Except for the period during the 1970s, the city has experienced a rate of growth greater than both Chittenden County and Vermont over the past 50 years. This higher rate of growth can most likely be attributed to a combination of the following factors: the city's location in the most populous county in the state, its abundance of open, developable land, and a high quality of life. The average annual growth rate from 2000 to 2010, based on data from the US Census Bureau was 1.9 percent. The official population count as of 2010 was 17,904, up from 14,879 in 2000.

Natural Increase. Natural increase, the number of births minus the number of deaths, is one component of population change. While there is considerable fluctuation in the city's annual amount of natural increase, a gradual downward trend has been evident since the early 1990s.

Birth Rates. Birth rates can be of particular interest in terms of future impacts on elementary school enrollments, recreation activities and provision of day care. As a general trend, birth rates have been declining throughout the country since the late 1970s. In Chittenden County and the State of Vermont, the 1970 birth rate of approximately 20 births per thousand residents has been nearly cut in half. While the city's birth rate increased somewhat during the 1980s, the rate has generally been

	South Burlington							County	State
	1940s	1950s	1960s	1970s	1980s	1990s	2000s	2000s	2000s
Population Growth	1,543	3,624	3,129	647	2,130	2,070	3,025	9,974	16,914
Percent Growth	*88.9*	*110.5*	*45.3*	*6.4*	*19.9*	*16.2*	*20.3*	*6.8*	*2.8*
Average Annual Growth Rate	*6.6*	*7.7*	*3.8*	*0.6*	*1.8*	*1.5*	*1.9*	*0.7*	*0.3*
Household Growth			960	1,069	1,359	1,154	1,655	5,375	15,788
Percent Growth			*53.6*	*38.9*	*35.6*	*22.3*	*26.1*	*9.5*	*6.6*
Average Annual Growth Rate			*4.4*	*3.3*	*3.1*	*2.0*	*2.3*	*0.9*	*0.6*
Housing Unit Growth	408	340	1,606	1,093	1,465	1,061	1,931	6,858	28,157
Percent Growth	*77.7*	*36.4*	*126.2*	*38.0*	*36.9*	*19.5*	*29.7*	*11.7*	*9.6*
Average Annual Growth Rate	*5.9*	*3.2*	*8.5*	*3.3*	*3.2*	*1.8*	*2.6*	*1.1*	*0.9*

Source: US Census

	South Burlington																												County	State
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2009	2009
Population																																
Population Estimate *(in thousands)*											12.8	13.0	13.2	13.5	13.6	14.0	14.2	14.3	14.5	14.7	14.9	15.3	15.8	16.3	16.5	17.0	17.1	17.4	17.6			
Births	111	98	135	144	148	151	167	169	140	159	126	150	139	177	168	160	143	165	144	155	173	146	180	174	198	196	169	174	166			
Birth Rate	10.4			12.8		12.7		13.6	11.4		9.8	11.5	10.5	13.1	12.2	11.4	10.0	11.5	9.9	10.5	11.6	9.5	11.4	10.7	12.0	11.5	9.9	10.0	9.4			
Deaths	65	64	49	50	67	72	73	86	70	70	65	68	81	80	83	96	104	93	104	105	111	98	106	144	134	129	148	130	155			
Housing																																
Units Permitted *(Census Bureau)*	285	129	123	232	169	256	161	74	98	97	31	55	64	131	57	127	65	26	140	216	214	260	296	132	335	47	165	98	91	99		
Single-Family Units	*48*	*11*	*10*	*24*	*35*	*92*	*83*	*56*	*62*	*60*	*17*	*40*	*39*	*41*	*39*	*30*	*26*	*21*	*60*	*67*	*214*	*145*	*88*	*132*	*72*	*47*	*69*	*63*	*46*	*35*		
Multi-Family Units	*237*	*118*	*113*	*208*	*134*	*164*	*78*	*18*	*36*	*37*	*14*	*15*	*25*	*90*	*18*	*97*	*39*	*5*	*80*	*149*	*0*	*115*	*208*	*0*	*263*	*0*	*96*	*35*	*45*	*64*		
Median Sale Price *(in thousand $)*									93	102	103	107	106	113	119	112	113	117	116	123	145	155	163	180	201	195	235	235	240	230	235	190
Adjusted to 2009$ (in thousand $)									*168*	*176*	*169*	*168*	*162*	*166*	*172*	*157*	*153*	*156*	*152*	*159*	*180*	*187*	*193*	*210*	*227*	*213*	*249*	*243*	*238*	*230*	*235*	*190*
Number of Sales									427	313	282	257	220	274	360	280	283	259	352	472	551	567	470	552	553	635	436	442	356	290		
Economy																																
Establishments	414	439	458	485	494	574	608	623	635	700	737	831	867	910	913	932	939	938	939	939	970	980	989	1,032	1,043	1,053	1,062	1,086	1,110	1,107		
% of Establishments in County	*13.3*	*12.9*	*12.9*	*13.4*	*13.6*	*13.8*	*13.8*	*13.7*	*14.6*	*15.4*	*15.4*	*16.9*	*17.2*	*17.7*	*17.7*	*17.8*	*17.5*	*17.2*	*17.2*	*17.1*	*17.2*	*17.3*	*17.7*	*18.3*	*18.4*	*18.4*	*18.5*	*18.5*	*18.5*	*18.6*		
Employees *(in thousands)*	7.4	7.9	8.1	8.6	9.2	9.8	10.2	10.7	11.8	13.5	13.5	13.1	13.3	13.9	14.5	15.2	15.9	15.9	16.3	16.8	17.5	17.7	16.9	17.1	17.7	17.9	17.8	17.8	18.4	18.1		
% of Employees in County	*13.8*	*14.0*	*14.1*	*14.6*	*14.9*	*15.0*	*15.2*	*15.1*	*15.7*	*17.3*	*17.5*	*17.4*	*17.4*	*17.8*	*18.1*	*18.4*	*18.7*	*18.5*	*18.4*	*18.4*	*18.3*	*18.4*	*18.0*	*18.3*	*18.6*	*18.8*	*18.7*	*18.7*	*19.4*	*19.6*		
Average Wage *(in thousand $)*	11.0	12.2	13.2	14.0	15.1	15.9	16.9	18.0	18.8	19.8	20.2	20.9	22.2	22.7	22.3	23.5	25.1	26.6	28.6	29.9	32.2	32.5	33.3	34.3	35.6	36.6	39.8	39.1	40.6	40.9	45.4	38.8
Adjusted to 2009$ (in thousand $)	*28.6*	*28.7*	*29.3*	*30.1*	*31.0*	*31.7*	*33.1*	*33.9*	*34.0*	*34.2*	*33.1*	*32.8*	*33.8*	*33.6*	*32.2*	*33.0*	*34.2*	*35.4*	*37.6*	*38.4*	*40.0*	*39.2*	*39.6*	*39.9*	*40.3*	*40.0*	*42.2*	*40.4*	*40.3*	*40.9*	*45.4*	*38.8*
Gross Sales Tax *(in million $)*																					1,054	1,062	1,075	1,111	1,336	1,341	1,352	1,540	1,702	1,518		
																					1,310	*1,283*	*1,279*	*1,291*	*1,512*	*1,469*	*1,435*	*1,590*	*1,691*	*1,518*		
Retail Sales Tax *(in million $)*																					255	288	275	279	297	317	323	318	344	303		
																					316	*347*	*327*	*324*	*337*	*347*	*343*	*329*	*341*	*303*		
Use Sales Tax *(in million $)*																					16	27	23	17	23	26	17	21	22	17		
																					20	*33*	*27*	*20*	*26*	*28*	*18*	*22*	*22*	*17*		

lower than state or county averages and has been declining for more than 15 years. Given the demographic profile of city residents, no significant changes to the birth rate are anticipated in the near future.

Migration. Net-migration (people moving in minus those moving out) is typically the major element driving population increases in a rapidly growing community or region. Over the past 50 years, more of the city's population growth has been due to net migration than to natural increase.

Age Distribution. Over the past 50 years, the age profile of the city's population has shifted considerably. The percentage of the population composed of children under age 18 has declined, while the population segment made up of residents age 65 or older has grown. The US Census Bureau reported that the median age of city residents in 2010 was 40.6. In 2010, 18.9 percent of residents were under age 18, and 16.1 percent were age 65 or older.

Household Size. Household size has been declining across the country for many decades. The city's average household has declined from around 3.5 people in 1970 to 2.19 people in 2010. This has led the number of households to grow at a faster rate than the population.

Household Composition. The characteristics of the city's households have also changed markedly in recent decades. Single people currently make up one-third of the city's households, while another quarter are married couples without children living at home. Only one-quarter of households include children under age 18. Evidence from the past decade suggests that the percentage of single-person households in the city is relatively stable. Because of the presence of UVM, this segment of the population includes young adults in addition to elders.

Household Income. In 2010, the median household income in the Burlington-South Burlington Metropolitan Statistical Area was $73,800 according to the federal Department of Housing and Urban Development. A two-person household with two workers earning the average wage paid by an employer in the city would have an income close to 80 percent of median and with the addition of a third non-wage earning member of the household, the family would be classified as low income. A single person working full time at a job paying minimum wage would earn around $15,000 annually and would be considered very low income.

Analysis and Challenges

Aging Population. The aging population trend is visible throughout Vermont and many places around the country as each generation born after the baby-boomers has been smaller in numbers. South Burlington and Chittenden County have generally had a younger population than the state as a whole, but that gap has been narrowing in recent years. Anecdotal evidence suggests that some housing built in recent years has been attracting retired couples. The 2004 City Center Market study noted that the most striking change in the composition of South Burlington's population during the

next few years would be the increase in the numbers of persons aged 55 to 74 years. These changes in the demographics will likely affect the regional economy, as well as local demand for housing, education, health care and other services.

Smaller Households. The average household size is anticipated to continue to decline in the near term, thus ensuring that the rate of household formation will remain high in the city even if population growth slows. It is the number of households, as opposed residents, that drive demand for housing and many city services. The amount of decline will be linked to the age distribution and socioeconomic characteristics of the city's future residents. Over the next several decades, it is likely that household size will stabilize to a level between 2.0 to 2.5 people, although changes in the regional economy could cause unexpected shifts in either direction. The uncertainty around average household size is a challenge to estimating housing needs based on population projections.

Migration. The role of migration in South Burlington's growth rate also makes it more difficult to project population change. Birth rates are linked to the demographic profile of current residents, but the economic factors that drive people to move into or out of an area are less predictable. Further, rapid turnover in the city's population poses a challenge for efforts to engage residents in the community and neighborhood-level planning.

Loss of Young Families. Research initiated by the South Burlington School District examining early childhood education has indicated a consistent trend of young families moving out of South Burlington in the years following the birth of their children. An analysis of birth rates and subsequent school enrollment five years later has shown a drop in several successive years.

Future Trends and Needs

Population Projections and Planning. The City of South Burlington in 2006 prepared a population projection through 2015 based on anticipated housing development. This projection suggested that by 2015, the city's population could exceed 21,000. Census data, combined with the economic downturn that began in 2008 indicate that this estimate was substantially too high. The city's actual growth rate during the 2000s was 1.9 percent, to a 2010 population of 17,904.

It is the city's responsibility to provide opportunities for a fair and reasonable amount of new population and housing units to help meet regional demands. While both "excessive growth" and "stagnation" have their disadvantages, most city residents accept a moderate rate of growth as normal and healthy for the community. The city, therefore, sees no compelling advantage to becoming a "magnet" for a large proportion of the county's population growth, nor to adopting a "no growth" policy. With these factors in mind, South Burlington finds its average population projections of 1.5 percent annual growth to be representative of a reasonably foreseeable rate of growth.

The city can use this estimated growth rate, which is based largely on past trends, as a foundation for future planning, in terms of capital needs, staffing needs, recreation and open space planning, and transportation needs.

Should the community experience prolonged periods of population change that varies dramatically from this 1.5 percent annual estimate, the city will need to either re-evaluate its planning assumptions and adjust accordingly, or consider the implementation of growth management techniques to either foster or suppress growth as needed. Techniques could include development phasing, sewer allocations, impact fees, or zoning amendments.

Population Objectives

Objective 1. Anticipate and prepare for an average annual growth rate of approximately 1.0 percent.

Population Strategies

Strategy 1. Monitor the rate of population growth and land use development on an annual basis, as measured over 10-year averages.

Strategy 2. Use growth management techniques, such as development phasing and sewer allocations, to ensure that the rate of development does not outstrip the city's ability to provide services in a cost-effective manner.

B. Housing

Shelter is a basic need and providing for housing is a fundamental element of this plan. Provision of adequate and affordable housing is a basic requirement for the city to maintain its quality of life, retain existing businesses and support further economic development, and attract future residents. A diversity of housing options at a range of price points will support the labor force needed to maintain or grow the local economy.

Overview

Key issues and needs related to the city's housing stock and residential development trends identified in this plan include:

- Balancing residential and economic growth.
- Maintaining and fostering housing that is attainable to households of all income levels throughout the city.
- Meeting the housing demands of increasing numbers of single-person households and seniors.
- Complementing new development areas with redevelopment of low-density, single-use commercial areas to higher-density mixed-use areas and infill within existing neighborhoods.

Inventory

Existing Housing Stock. South Burlington has a diverse housing stock, approximately 70 percent of which is owner-occupied while 30 percent is composed of rental units. Within the city, there are single-family homes of all sizes, condominiums and townhouses, apartment buildings and accessory rental units. The 2010 Census counted 8,429 housing units in South Burlington; between 2000 and 2010, approximately 1,750 additional units were permitted.

Residential Construction. The number of housing units in South Burlington has grown steadily each decade since the first Census housing count in 1940. Between 1940 and 2010, nearly 8,750 dwellings were constructed in the city. The city experienced rapid housing growth during the period from the late-1970s through the mid-1980s, largely due to multi-family development. During the late-1980s and early-1990s, the rate of housing growth slowed and new construction shifted to predominantly single-family detached dwellings. For a period of time in the late 1990s and early 2000s, the rate of housing construction in the city averaged around 200 units per year and South Burlington again experienced increased development of multi-unit structures. That figure declined to approximately 100 units annual in the late 2000s.

The type of housing units being built in the city over the past 25 years has been weighted towards multi-family structures. Between 2000 and 2010, approximately 60 percent of new housing was multi-family, while only 30% was single-family. A clear gap in the city's housing stock, however, has been entry-level single family homes and

duplexes. The majority of the single-family homes built in the past 15 years have been at or above the median home value for the community.

Age and Condition. The quality of building workmanship, design, and materials used in the city's existing housing stock appears to not pose a threat to the health and safety of residents. Only seven percent of the city's housing stock dates from before World War II, with more than half having been constructed since 1980. Care should be taken, however, as housing from the city's first significant wave of development in the 1950s, continues to age.

Owner-Occupied Homes. The costs of owner-occupied housing in South Burlington have risen sharply in recent years in response to the tight housing market in northwestern Vermont and due to the addition of new higher-priced units. In 2008, the median sales price for a primary residence (single-family homes, condominiums and mobile homes with land) in the city was $240,000. After adjusting for inflation, home prices in South Burlington have increased by approximately $75,000 since the mid-1990s. In response to the current economic downturn, the number of home sales has declined, but prices have essentially remained level since 2006.

Rental Market. According to the U.S. Department of Housing and Urban Development, the median rent for a two-bedroom apartment in 2007 was just over $1,000 a month. Over the past 10 years, monthly rents have increased $200 to $400 above the rate of inflation. There were approximately 500 affordable rental units in the city in 2007, about half of which house elderly residents. Most of these affordable rental units have been constructed since the mid-1990s.

Affordability. Affordable housing helps to retain and attract a qualified work force and provides an opportunity for first-time home buyers and older residents to remain in the city. Nearly one-half of the city's renting households and one-quarter of homeowners spend more than 30 percent of their income on housing according to the 2000 Census. So a fairly significant number of households in the city are already living in housing that would be considered unaffordable. Households earning 80 percent of Chittenden County's median income could afford to purchase a home ranging in price from $130,000 to $230,000 depending on factors such as amount of household debt and ability to make a down payment. Approximately one-third of the city's existing owner-occupied housing stock could be considered affordable, assuming sales prices are not significantly above assessed values. The city will need to examine data from the 2010 Census closely on this subject, however, as indicators have suggested that affordability has slipped in the community during the past decade.

Regional Housing Targets. In 2004, Chittenden County Regional Planning Commission (CCRPC) released a report that established housing targets for the county and its municipalities. The study recommended that at least 1,444 new housing units be constructed in South Burlington between 2000 and 2010. Of those new units, 10 percent should be affordable for moderate-income households and another 10 percent should be affordable for low-income households. The number of total housing units built in the city appears to have exceeded the recommended minimum target for

overall housing and has made significant strides in affordability, particularly for senior housing, though the amount may not reach the target presented by the CCRPC.

Analysis and Challenges

Affordability. Ensuring an adequate supply of affordable housing remains a challenge for South Burlington. While there has been a steady increase in the number of housing units and the city's housing growth rate has slightly outpaced the county's rate of housing growth, the regional demand for additional housing units has remained high and vacancy rates remained low over the past decade as the household growth rate slightly outstripped housing construction. These factors, coupled with low mortgage rates and economic growth, resulted in a very tight housing market throughout northwestern Vermont by the late-1990s.

In response to market pressures, South Burlington began to experience a construction boom around 1998, which lasted into the mid-2000s. The economic downturn and troubles in the housing market have slowed the pace of residential development in the city during the past several years. These factors also contributed to higher sales prices and an overall decrease in the affordability of housing within the city between the mid-1990s and mid-2000s. Additionally, the high cost of new homes built during the recent construction boom drove the median value of homes in the city upward.

As of 2010, the recent economic downturn had slowed home construction and sales of existing homes, but it had not had significant effects on housing costs, particularly for homes valued at less than $200,000 and for rental units.

Changing Demographics. Much of South Burlington's housing has been constructed to meet the needs of families with children. The city is already experiencing an increase in single-person households and older residents - trends that are expected to continue over the next several decades. Many of these households will be seeking housing that is smaller and/or with limited maintenance requirements.

Smart Growth. At the close of the city's sixth decade of continued residential construction, a relatively small amount of undeveloped land remains available in the city. South Burlington will need to look increasingly to opportunities for higher-density, mixed-use development in targeted growth areas like the City Center, as well as increased density and infill development within existing neighborhoods, in order to meet demand for additional housing units.

Balanced Growth. As the need for housing grows in the region, South Burlington should plan for continued residential expansion while at the same time ensuring continued economic development to prevent the city from becoming merely a bedroom community to neighboring municipalities.

Building Codes. A central element in any housing policy is the assurance of good quality in both existing units and new construction. Due to the number of attached residential units, the high density of development in many parts of the city, and the aging or subdivision of dwellings, the need for enforcement of building, plumbing,

and electrical codes is increasing. The existence of such codes can decrease insurance premiums, as well as minimize the future requirements for firefighters and equipment in maintaining the same degree of fire protection. Currently, the city does not have municipal building codes. The construction of rental and multi-unit housing in the city is regulated to some extent by the Vermont Department of Labor and Industry.

Future Needs and Trends

Affordability. South Burlington needs an adequate supply of affordable housing to support its economic vitality and it is clear that the market alone will not produce that supply. The city has no direct control over such cost factors as increases in labor, materials, down payments, or mortgage rates and availability of credit. However, the city can influence housing cost factors in other areas such as amount and density of land zoned for different types of residential uses including positively promoting mixed-use development, length and consistency of governmental reviews, and extent of "front end" subdivision improvements and other expenses.

Techniques that can be used to encourage the development or maintenance of affordable housing include, but are not limited to, the following:

- Creative site development, such as clustering, to reduce lot size and site development costs.
- Density bonuses or incentives to encourage the development of affordable housing.
- Higher densities and smaller lot sizes.
- Re-examining "density" to consider building size in addition to units per acre.
- Formation of an affordable housing "task force" to study the issue and make recommendations to the city.
- Consideration of a municipal "land bank" if appropriate sites can be found.
- Involvement of housing organizations such as the Lake Champlain Housing Development Corporation or Burlington Community Land Trust to construct or rehabilitate affordable housing in the city.
- Permit transfer of development rights as a method of achieving higher densities necessary for developing affordable housing.
- Promotion of mixed-use developments that create a variety of housing opportunities within commercial areas located centrally to public transportation and other services.

Housing Objectives

Objective 2. Foster the creation and retention of a housing stock that is balanced in size and target income level, is representative of the needs of households of central Chittenden County, and maintains an efficient use of land for use by future generations.

Objective 3. Support the retention of existing and construction of new affordable and moderate-income housing, emphasizing both smaller single family homes and apartments, to meet demand within the regional housing market.

Housing Strategies

Strategy 3. Implement a variety of tools and programs to foster innovative approaches to increasing the city's supply of affordable and moderate income housing, including but not limited to: a housing trust fund, form-based coding which would allow a variety of residential and mixed use building types, expanded accessory dwelling unit provisions, transferable development rights, inclusionary zoning, bonuses and incentives, waivers and expedited review processes, and/or a housing retention ordinance.

Strategy 4. As needed, establish appropropriate oversight within an Affordable Housing Committee or taskforce charged with increasing the availability of safe and affordable housing in the city, that would work with a variety of related professionals, city staff and officials, and residents to facilitate affordable housing and offer recommendations on housing-related issues to the Planning Commission, and City Council.

Strategy 5. Increase the supply of safe and affordable rental housing by allowing higher-density, mixed-use and mixed-income development within City Center and transit corridors, allowing multi-unit housing within transitional zones between residential neighborhoods and commercial/industrial land uses.

Strategy 6. Promote the conservation of the housing stock in existing residential neighborhoods, particularly the supply of affordable and moderately-priced homes.

Strategy 7. Accommodate compatible infill and additions to homes in existing neighborhoods.

Strategy 8. Explore innovative land development regulations that allow for a range of residential building and neighborhood types, including but not limited to cottage housing, clustered housing and infill residential development.

Strategy 9. Streamline administrative policy for affordable housing and consider reducing or eliminating permit and impact fees for affordable housing.

Strategy 10. Monitor the need for the City to adopt and enforce local building, plumbing, electrical, fire, and energy codes; monitor the need for a rental registry program, and continue to enforce the state rental housing code to protect residents' health and safety and quality of life in the city's neighborhoods.

Strategy 11. Promote the construction of new homes- particularly affordable and moderate-income units- that are highly energy-efficient, and upgrades to existing homes to make them more energy-efficient, which will reduce residents' overall cost of living and contribute to housing affordability.

C. Economy

The continued vitality of the city depends heavily on the continued prosperity of its businesses and industries. The local economy is the engine that drives people to move in (or out) of the community. Demand for housing, transportation and infrastructure are linked to the local economy. A healthy economy supports municipal services and the education system. Maintaining a balance of employment and residential opportunities preserves the city's sense of community and quality of life.

Overview

Key issues and needs related to the economic development trends identified in this plan include:

- Convenient access to employment either within the city or within a short commute to neighboring employment centers in Chittenden County is a key component of the city's quality of life. South Burlington boats one of the shortest average commutes in the nation at around 15 minutes. This results in residents having more time available for their families, recreational activities, volunteering, etc., having to spend less of their income on fuel and vehicle expenses, and having a smaller carbon footprint.
- South Burlington's economy is characterized by a diverse mix of businesses, including several large companies and many small- to medium-size firms, and the city has been considered a good location to start a business for decades. As land becomes an increasingly scarce resource in the city, the cost of locating a new business in South Burlington may increase making the city cost-prohibitive for start-up companies and small, local enterprises. This challenge may be addressed to some extent through efforts to promote more compact, mixed-use development and redevelopment of under-utilized properties.
- The presence of Burlington International Airport in the city continues to provide a strong foundation for the city's economy and future economic development efforts. However, there is potential for capturing more "visitor dollars" within the city with improved facilities and amenities.

Inventory

Economic Profile. South Burlington is home to a diverse array of small- and medium-sized businesses. In 2006, the Vermont Department of Labor (VTDOL) counted more than 1,100 establishments and approximately 18,400 jobs in the city (this figure, however, does not reflect all businesses and employment in the city as it excludes the self-employed and many small businesses with no employees). South Burlington has maintained a fairly steady rate of economic growth over the past three decades, which is partially due to the fact that the community's economic health is not dependent on a single large employer or business sector.

Strong increases in employment in South Burlington have resulted in the city becoming an employment center in the region. This is portrayed in the relationship of total

employment to total population. In South Burlington, the ratio of employment to population in 2004 was 61 percent. That compared to 51 percent for Chittenden County and 47 percent for all of Vermont.

Employers. In 2005, there were five employers with more than 250 employees located in South Burlington. These major employers do not, however, represent the majority of jobs in the city. More than half the business establishments in South Burlington are small firms that employ less than 10 people. In recent years, most of the growth in employment and establishments has been in very small businesses (less than five employees) and mid-sized companies employing 10 to 50 people.

Employment. Between 2000 and 2008, South Burlington added nearly 1,000 jobs with some sectors reducing their number of employees while others expanded. The professional and business service, health care and the food service sectors grew, while the city lost jobs in government and the lodging and accommodation industry. The retail sector, previously one of the most rapidly growing segments of the city's economy, saw little to no job creation. In recent years, the most substantial job growth has occurred in sectors that demand office space and projections call for continued strong growth in the services sector.

Wages. Wages in South Burlington and Chittenden County are notably higher than those for the remainder of Vermont, although the differential is less for South Burlington than for the remainder of the county. It is also significant to note that average wages in South Burlington increased substantially between 1990 and 2000, at well above the rate for the county and the remainder of the state. Wage growth since 2000 has been less dramatic, however.

Labor Force. The City of South Burlington is an employment center and a net importer of workers from throughout the region. Of the people working in the city, approximately 20 percent live in Burlington, 15 percent live in South Burlington and 10 percent live in Colchester. Most of the remaining workers commute from towns throughout Chittenden, Franklin and Addison counties.

Where local residents work and where workers come from to work locally is highly indicative of established economic and trade patterns. A large majority of South Burlington residents who work do so within a relatively small area, with 81 percent working in South Burlington, Burlington, Essex or Williston. This is an advantage of living in the midst of a major job center. In contrast, workers who commute to South Burlington do so from a broader geographic area, including a number of regional communities that are rural in nature and which have very little local employment.

South Burlington and the immediately surrounding communities constitute Vermont's principal job center. As such, local residents are generally able to commute short distances to good jobs. However, the attraction of this job center draws in a substantial number of workers from surrounding areas. These workers create market potentials for city businesses.

Commercial and Industrial Development. South Burlington has experienced substantial commercial growth since the 1980s, when the city averaged approximately 261,000 square feet of permitted commercial development each year. While that rate of development declined in the early 1990s, it rose again beginning in the late 1990s. Between 2000 and 2007, South Burlington added nearly 2.2 million square feet of commercial space. It appears that the economic downturn is again slowing the rate of commercial development in the city.

Retail Sector. One out of five jobs in South Burlington was in the retail sector in 2006, making retail the single largest component of the city's economy. While the city's total number of jobs represents around 19 percent of the Chittenden County total, nearly 28 percent of county's retail sector jobs are located in South Burlington. Total annual retail receipts in the city have continued to grow according to the Vermont Department of Taxes, increasing by more than $28 million between 2000 and 2008 after adjusting for inflation. South Burlington accounts for approximately 20 percent of Chittenden County's total retail receipts.

Professional and Business Services Sector. The professional and business services sector is the city's second largest employer accounting for 15 percent of jobs and 25 percent of earnings in 2006. This sector has also been the fastest growing in recent years.

Travel Sector. Chittenden County's travel profile differs from the remainder of the state because a relatively high component of the region's travel activity is generated by business and commercial, rather than tourist or recreational, travel. The region's travel activity is distributed relatively evenly throughout the year, so travel oriented businesses in the region can count on a steadier flow of business without significant seasonal fluctuations. South Burlington is not regarded as a tourist destination, but the city benefits from a combination of travel factors (the proximity of the airport and interstate) and a location with good access to many of the region's major employers.

The lodging industry has a major presence in South Burlington. The 2004 City Center Market Study reported that there were 25 licensed lodging facilities in South Burlington with an approximate total of 1,800 lodging rooms. South Burlington accounts for 45 percent of the rooms tax collections in Chittenden County, a reflection of the substantial concentration of lodging capacity in the city.

Analysis and Challenges

Balanced Growth. It has been South Burlington's policy to balance residential and non-residential development in order to maintain a more stable tax rate for the city's property owners. The city has generally aimed for, and largely achieved, a one-to-one ratio between the value of residential and non-residential property.

While the one-to-one ratio has been a long-time policy of the city, recent changes in the state's education funding formula have somewhat reduced the benefit the city's residential property owners receive from South Burlington's large non-residential tax

base. Further analysis is needed to determine if this policy of balanced growth should be continued in future years, particularly if the state's education funding formula continues to be changed.

Burlington International Airport. Lodging managers in the city indicate that the Burlington International Airport is a significant factor for them in terms of business generation. Activity at the airport has increased in recent years, a factor of physical improvements and the emergence of discount airlines – Jet Blue – as a factor in the aviation industry. Airport enplanements increased at an annual rate of 5.2 percent between 2000 and 2003 and approximately three to four percent from 2003 through 2008 and the start of the economic downturn. In the two years that followed, airport enplanements dropped due to economic conditions and runway reconstruction. The airport's master plan anticipates a long-term trend of three percent annual growth in enplanements.

Economic Development Organizations. The city supports several organizations devoted to promoting economic development including the Greater Burlington Industrial Corporation (GBIC) and the Lake Champlain Regional Chamber of Commerce. In 1994, the city established the South Burlington Economic Development Committee whose mission is to promote the city as the best place to establish or expand a commercial business or industry in Chittenden County and Vermont. In 1999, the city conducted a study, which recommended establishing a local development corporation.

The purpose of the organization would be to promote South Burlington, in particular its City Center, as a good place to live, work and shop, support existing and new businesses, create jobs, and improve the city's infrastructure in support of economic development and residential neighborhoods. A primary focus of the local development corporation, as recommended in the study, would be to facilitate development of the City Center, coordinating between the city and businesses to properly plan the City Center, secure funding for infrastructure improvements, and offer any other support that existing and new businesses may need.

Future Needs and Trends

Aging Workforce. While South Burlington boasts a younger demographic than most Vermont communities, the aging of the workforce over the next several decades is anticipated to be challenge to businesses statewide. As the baby boom generation leaves the workforce, employers will need to replace them with younger workers. A lack of affordable housing and available job opportunities that match the education and skills of Vermont's youth and young adults have led many to leave the state to start their careers for more than a decade. This trend, if not reversed, could result in a very tight labor market in which businesses are unable to attract the workforce necessary to sustain and grow their operations.

Economic Objectives

Objective 4. Continue to be an economic hub for the region consistent with the land use goals of the city.

Objective 5. Maintain a balanced ratio of residential and non-residential sectors of the grand list in order to provide quality municipal services at a manageable property tax rate.

Objective 6. Maintain a stable and proportional tax for existing and future residents and businesses.

Economic Strategies

Strategy 12. Take an active role in strengthening the city's economy by maintaining quality jobs through the establishment of a community development corporation, continued involvement with regional partners, and pursuing grants and low interest loans for economic development.

Strategy 13. Work with adjoining municipalities and regional entities to resolve potential spillover effects resulting from economic growth and development.

Strategy 14. Foster and encourage small and local business development.

Strategy 15. Recognize that affordability is comprised of more elements than housing slae price or lease value. Asess affordability to include energy and transportation costs.

Strategy 16. Brand and actively market the city with the community vision and image expressed in this plan.

D. Community Facilities and Services

One of the purposes of a comprehensive plan is to identify services currently available to city residents, evaluate the effectiveness of the municipality and other providers in delivering those services, anticipate future demands and assess whether those demands can be met efficiently and without negatively impacting the fiscal health of the city.

Overview

Key issues and needs related to the provision of community facilities and services include:

- City administration, the library and school district all have identified needs for improved and/or expanded facilities that will need to be met in the near future. This poses both a challenge and an opportunity for the city. It will be a challenge to fund multiple improvements simultaneously and to prioritize those needs. Yet, there is the opportunity to address multiple needs with a single solution, which could be more efficient and cost-effective in the long-term. There is also the opportunity to better align provision of key community facilities and services with the city's vision and future goals such as development of City Center, creating an identity for South Burlington, energy efficient and green civic buildings, improved walkability and transit, enhanced quality of life, etc.
- The need to balance efficient and cost-effective use of school facilities with the strong desire of parents and students to retain neighborhood schools is increasingly important in light of state education funding and budget constraints, facilities that are approaching capacity, and continued residential growth.
- It will be necessary to continue monitoring growth against the city's ability to provide facilities and services without burdening current taxpayers. New development should continue to "pay its own way" to the greatest extent feasible, with recognition that there may be community benefits (e.g., job creation or affordable housing) that offset community costs that also need to be considered.

Inventory

City Government. South Burlington's officials and staff work largely from the City Office building at 575 Dorset Street. Some city staff are based at the Department of Public Works building. The condition of the city office building at 575 Dorset Street and the adequacy of its facilities to meet the city's needs has been an identified issue for a number of years, but has recently undergone significant upgrades which are expected to serve as adequate for several more years.

Public Works. The Department of Public Works is responsible for maintaining city streets (including signs, lighting, and traffic lights), parks and recreation paths, storm-water systems, two sewer treatement plants and associated collection systems, water distribution systems, and gravity sewer lines. The department also maintains city and

school district vehicles. South Burlington has a joint municipal/school district Public Works facility, constructed in 2001 at 104 Landfill Road. The facility represents a co-operative relationship between these two public entities that has allowed for increased efficiency and economy of scale.

Police. The city established its Police Department in 1953 with the hiring of a single officer. The department has grown with the city and now includes 38 law enforcement personnel in addition to administrative staff. In 2010, the Police Department relocated from the City Office building at 575 Dorset Street to a newly constructed building at 19 Gregory Drive, resolving the department's long-standing need for expanded and improved facilities.

The Police Department has maintained accreditation by the Commission on Accreditation for Law Enforcement Agencies since 1994. The department provides primary law enforcement services throughout the city, with the exception of Burlington International Airport, which is served by the Burlington Police Department. Additional county, state, and federal law enforcement organizations provide specialized services within the community.

In addition to traditional policing services, the department hosts operates a number of specialized programs and engages in multiple community outreach programs, including National Night Out, the City's most widely-attended annual celebration. Among the programs run by the department are its Youth Services Unit, its Traffic Safety Unit, DARE, Kids and Kops, Quest Neighborhood Watch, and Business Watch. The Police Department is committed to expanding programs according to a prevention model. The department works closely with the Recreation Department in a collaborative effort.

Fire and Rescue. The South Burlington Fire Department (SBFD) provides primary fire, medical and specialized rescue response throughout the city. It also serves the civilian buildings at the Burlington International Airport (runways and military buildings have the Vermont Air National Guard Fire Department for primary response). In addition, the department supports all the surrounding communities and the Air National Guard Fire Department, as part of written mutual aid agreements. In turn, these same organizations support SBFD in large emergency incidents.

The Fire Department is a combination department with full-time and part-time personnel. Two fire engines and one ambulance are staffed 24 hours per day. Personnel are called out to staff additional emergency vehicles when greater response is needed.

The city has two fire stations:

- Station #1 is located in the City Hall complex on Dorset Street. This facility was refurbished and expanded in 2005 to better house the new ambulance service. Today, with the addition of personnel through the SAFER Grant in 2008, Station #1 meets current space needs. Additional personnel or vehicles will require additional space to be added in the future.

- Station #2 is located on Holmes Road, off Shelburne Road. This station reduces response times to the southwestern end of the city, an area with a significant volume of emergency incidents. Station #2 does not meet current space needs. The second floor of the station was built partially finished and needs to be completed. Upon completion, Station #2 will meet current and future needs of the station's coverage district.

Commercial and residential fire insurance rates are affected by the Insurance Services Office (ISO) rating system. ISO guidelines and that of the National Fire Protection Association (NFPA) are used when planning vehicle and equipment purchases. Building inspections, new construction, and fire code enforcement is provided by the Vermont Division of Fire Safety. For the purposes of development review, the department uses the Vermont fire safety standards. Maintaining high standards throughout the city has contributed significantly to lowering losses of life and property due to fire. Currently, the SBFD annually inspects all businesses that apply for a liquor license and provides assistance to residents for safety equipment and information.

Medical Facilities. Hospital health care is provided by two major hospital units of Fletcher Allen Health Care. One unit, the former Medical Center Hospital of Vermont is located on the UVM campus in Burlington. The other unit, the former Fanny Allen Hospital, is located in Colchester.

In South Burlington, several private doctors' offices complement a recently-developed Fletcher Allen Health Care annex on Tilley Drive. This complex of buildings provides specialized out-patient care.

Emergency Preparedness and Response. The City of South Burlington actively embraces an four-phase strategy of emergency preparedness and response: mitigation, preparedness, response, and recovery.

Mitigation. Mitigation forms the link between emergency management, infrastructure and land use planning. The city adopted its first All-Hazards Mitigation Plan (as an annex to the Chittenden County All-Hazards Mitigation Plan) in 2005 and has worked with the CCRPC to maintain current plans since. That plan identifies a wide range of potential risks to the city and assigns a likelihood and a scale of damage to each. Using this matrix, the plan presents a series of actions that can be taken by the city, its residents, and its businesses to lessen the likelihood and impacts of future incidents.

The plan includes a hazard risk assessment that measures both the likelihood and potential severity of different types of large-scale emergencies in the city. The analysis revealed severe winter storms, gas and/or electric service loss, and flooding as among the large-scale hazards that warrant the greatest attention. A series of goals and actions to help reduce the impacts of these and other types of emergencies are included in the Mitigation Plan and, where appropriate, are incorporated into this Comprehensive Plan and other city policies, programs, and regulations.

- Flood resiliency. As used in this document, and per the 2013 guidance document for Disaster Recover and Long-Term Resilience Planning in Vermont, flood resilience references measures taken to reduce the vulnerability of communities to damage from flooding and to support recovery after an extreme event. Due to its geography and elevation, South Burlington doesn't face the same level of risk as many of the more vulnerable communities in Vermont. Still, it has and shall continue to plan for flood resiliency in earnest. Elements of mitigation employed in the city include general land use planning and zoning; a restriction on development within primary conservation areas, including river and stream corridor buffers and setbacks and mapped flood plains; restricted development along Lake Champlain; extensive Low Impact Development stormwater standards and the state's first Stormwater Utility which continually assesses and upgrades city stormwater infrastrucutre; a watershed approach to surface water and stormwater management; robust landscaping requirements and cyclical assessments of tree canopy; smart growth approaches including clustered housing and channeled development in a designated New Town Center; coordination with neighboring communities; and active participation in the regional All Hazards Mitigation Plan with timely detailed local updates. All of these elements may be found throughout this Comprehensive Plan, with specific references, objectives and strategies related to surface and stormwater planning in the 'Blue Infrastructure' chapter.

Preparedness. Emergency preparedness and response activities in South Burlington are coordinated through the Fire and Rescue Department and Police Department. In addition to ongoing training within these departments, the city regularly works with the School District, senior housing groups, and local organizations such as the Red Cross to enhance public preparedness. South Burlington has also been an active participant in the Chittenden County Local Emergency Planning Committee, an organization responsible for coordinating emergency preparedness at the regional level.

The city maintains an up-to-date Emergency Operations Plan that spells out strategies for alerting the public of emergencies and identifying the scope of responsibility for various departments. This plan also identifies potential shelter locations, which include schools, churches, and other large community buildings. In most cases, these shelters have been approved by the American Red Cross, allowing them to set up and manage the shelter in the event of an emergency. The City also maintains an Emergency Operations Center at the Public Works facility.

In addition, the South Burlington Fire and Rescue Department and Public Works Department are regular participants in the local development review process, providing input to the Development Review Board regarding the location and access of buildings, roadways, and other safety-related issues.

Response. Emergency response in South Burlington is primarily the responsibility of the city Police Department and Fire and Rescue Department, with support from the Public Works Department, the Vermont Agency of Transportation, and mutual aid response partners. The roles of the city's departments are described in their individual sections within this chapter. Emergency dispatch is managed through the Police Department, and systems are redundant to Burlington in case of need.

Recovery. Recoveries from large-scale incidents in the city have generally been related to flooding. South Burlington has worked diligently, through its Stormwater Division, to address the causes of wide-scale flooding incidents.

Library. The city's community library is located in the North Wing of the South Burlington High School on Dorset Street. It is a combined public and high school library. The library is open six days a week, 58 hours per week, and has 4.5 full-time equivalent employees. Services have expanded to include wireless internet access, public access computers, remote access online databases, outreach services to home bound residents, local day care centers, pre-schools and retirement homes.

Annual circulation has increased by 50 percent since 2001, totaling 110,000 items in FY2007. Individual computer sessions reached 40,000 in FY2007. The library sponsors more then 500 programs each year for children and adults, including book discussions, workshops, lectures, story times for children, holiday and school vacation activities, chess classes, contemporary topic discussion groups, and musical concerts. In 2007, attendance at library programs exceeded 10,000.

As a recipient of several grant awards from the Freeman Foundation, The Community Library has been significantly transformed over the past six years, optimizing the existing space by adding a new public entrance and circulation desk, new shelving, carpeting, tables and chairs, and a new Children's Room.

Childcare. The majority of South Burlington's parents are working outside the home. According to the 2005-09 American Community Survey, 68 percent of children under age six likely required day care or after-school care while their parents were at work, while 77 percent of children aged 6 to 18 have all parents in their household in the labor force. Parents commuting to jobs in South Burlington may prefer to enroll their children in childcare programs close to their workplace. The result of these factors has been an increasing demand for childcare and after-school programs to meet the needs of working parents and their children. Within Chittenden County, it is most difficult to find care for children from infancy to age three.

Child Care Resource is a non-profit human service organization located in Chittenden County. It helps families and providers make child care connections, strengthen early learning opportunities by working with early care and education providers, and create child care solutions for communities. Each day, about 6,500 Chittenden County children attend a child care or after-school program and:

- 30 percent live in poverty
- Some have experienced abuse, neglect or homelessness
- Some are new Americans
- Some have developmental, physical, emotional or behavioral challenges

Child Care Resource recently completed a study for the South Burlington School District assessing early childhood education, of which child care is a component. The study and its working group revealed a trend of families with young children seeming

to leave South Burlington before the children reach school age and identified potential opportunities to support young children and their families so that children enter kindergarten eager to learn and ready to participate.

Child Care Resources provided the city with the following statistics about the supply of child care in South Burlington, as of 2011:

- **Licensed Child Care Centers.** There are three child care centers providing full-day care for children ages birth to five. Among those, there are 158 slots and a vacancy rate of one percent. All three been recognized for quality. Two participate in Vermont's Step Ahead Recognition System (STARS) and of those, one has attained 3 STARS and one has attained 5 STARS (the highest level of STARS). Two of the programs provide publicly funded prekindergarten in partnership with the South Burlington School District and one is working toward this goal.

- **Registered Family Child Care Homes.** There are eight registered family child care homes that also provide full-day care for children ages birth to five. Some provide care for school age children up to age 12 as well. Among those there are 64 slots and a current vacancy rate of five percent. Two of these programs have been recognized for quality, one at the 3 STAR level and one at the 5 STAR level. Two of the programs provide publicly funded prekindergarten in partnership with the South Burlington School District and Child Care Resource.

- **Licensed Family Child Care Homes.** There is one licensed family child care home that provides full-day care for children ages birth to five and part-day care for school age children. This program has 12 slots and a current vacancy rate of zero percent. It has 4 STARS and provides publicly funded prekindergarten in partnership with the South Burlington School District and Child Care Resource.

- **Licensed Preschool Programs.** There are five licensed preschool programs that provide part-day and full-day options for children ages 3-5. Among those, there are 104 slots and a current vacancy rate of five percent. Four of the five programs hold 5 STARS. All but one of the programs provides publicly funded prekindergarten in partnership with the South Burlington School District.

- **Licensed After-School Programs.** There are five licensed after-school programs providing part-day care for children ages 5-12. Among those, there are 225 slots and a vacancy rate of less than one percent. One of the programs has received quality recognition of 3 STARS.

The provision of safe, local, and accessible childcare and pre-school is a vital element in attracting families to South Burlington. As such, the City endeavors to ensure that high-quality and affordable childcare is available within its borders.

Lands, Parks, Natural Areas within the City. The following is an inventory of parks, open space lands, and associated facilities within the community. They are organized

below by a hierarchy of function within the community as described within each. They are further organized by their principal existing and planned uses as described in the pull out box within this section.

Principal Existing & Planned Uses:

- **Natural Areas.** Natural areas have generally been historically undeveloped, though most of the land in the region was logged and farmed for some portion of its history. Many contain unusual communities of plants and animals, rare species, and exceptional geological features, while others serve as part of wildlife corridors, refuges, or habitat areas. Each of these are publicly owned, University-owned, or privately conserved. Future needs for natural areas are identified within the Ecological Resources section of this Plan.
- **Active Recreation.** Active recreation areas are generally provide one or more facilities geared towards physical activity, such as ballfields, basketball and tennis courts, playgrounds, rinks, beaches, and tracks. Future needs for active recreation facilities are identified within the Recreation section of this Plan.
- **Passive Recreation.** Passive recreation areas such as tracks of lands with walking & hiking trails, undesignated fields, picnic sites, and viewing areas. They may be associated with natural areas, active recreation, or may be their own sites. Future needs for active recreation facilities are identified within the Recreation and Ecological Resources section of this Plan.
- **Agriculture.** Agricultural areas include uses such as larger-scale farming, community-supported agriculture, and community gardens. They may be associated with natural areas, active recreation, or may be their own sites. Future needs for active recreation facilities are identified within the Recreation and Ecological Resources section of this Plan.
- **Other.** Additional designated listed within this section of the plan are specific to individual owners or sites such as educational facility, research, private recreation, community center.

Citywide Parks, Lands & Facilities. Citywide parks and natural areas are those owned designed as gathering points for large community events and activities and are typically intended for regular enjoyment by residents throughout the city and region.

- **Veterans Memorial Park (uses: active recreation).** A 210-acre city park providing both passive and active recreational activities, located immediately south of I-89 and east of Dorset Street. The 70-acre City Park currently has two soccer fields, one regulation and two youth baseball fields, open field spaces, two indoor ice arenas (privately operated), a children's playground, a community bandshell, a Veterans' memorial, picnic pavilion with tables, rest rooms, and a solar array.

- **Red Rocks Park (uses: passive recreation, natural area, limited active recreation).** 100 acres on Shelburne Bay; it is mostly wooded kept in natural condition with walking paths and hiking trails. It includes 700 feet of public beach, picnic areas, and parking areas. A management plan for the park's

future use and maintenance is under development. Proposed Action: completion of management plan.

- **Overlook Park (uses: passive recreation).** 1.7 acres located on the west side of Spear Street, north of Deerfield Drive. It contains viewing areas and picnic tables and has parking.

- **Community Dog Park (use: actively recreation).** Established in 2010, the Community Dog Park is located at the east end of Kirby Road. It includes a parking area and fenced areas for large and small dogs on land leased from the City of Burlington.

- **Wheeler Nature Park (uses: natural area, passive recreation, limited agriculture).** This 100+ acre parcel is located at the corner of Swift and Dorset Streets and lies adjacent to Dorset Park. It is a designated natural area that requires voter approval for any other use to take place on the property. The park includes the Wheeler Homestead, a historic building with office and other space with affiliated community and display gardens and a city tree nursery. A management plan for the park's future use and maintenance is under development. Proposed Action: completion of management plan.

- **Oak Creek Properties (current use: passive recreation, natural area; planned uses: natural area, to be determined).** This land includes Three (3) separate parcels owned by the City. The southerly parcels are wooded natural areas designated as permanent open space; the northerly parcel is half wooded and half open fields and is not formally designated by the City. Proposed Action: development of management plan

- **Scott Property (current use: natural area, planned use: TBD based on management plan).** Acquired by the City in the mid-2000s, this 40-acre open space property serves as part of a wildlife corridor that extends from Shelburne Pond towards the Dorset Park Natural Area. A small pond is located on the parcel. The property was purchased with the city's Open Space funds. A management plan has not yet been developed. Proposed Action: development of a management plan

- **Underwood Property (current use: agriculture; planned use: to be determined).** Acquired by the City in 2013, this 60-acre property includes open fields, woodlands, wetlands, and spectacular views of Lake Champlain and the Adirondacks. The property was purchased with the city's Open Space funds. A management plan has not yet been developed. Proposed Action: development of management plan.

- **South Burlington High School-Middle School (current use: educational facility, active recreation).** This 80-acre parcel includes school buildings, the community library, several fields designed for baseball/softball, football/soccer/lacrosse, etc., a running track, tennis courts, and additional facilities.

When not in use by the school district or otherwise leased out, they are available for public use.

- **Municipal Building Sites:** See specific sections on city government, public works, police, and fire/rescue

Citywide Parks, Lands & Facilities not owned by the city or schools. These lands and parks serve an important city-wide role in the community. Some of these lands are designated for conservation and public use, while others are used or planned for agricultural and research facilities and may not be regularly open to the public. Still others are undesignated by the University.

- **University of Vermont Lands:** The following lands, and others, are owned and operated by the University of Vermont and are detailed with the University's Campus Master Plan in greater detail.

- East Woods (uses: natural area, passive recreation, research, education) is a 40-acre parcel with an old-age stand of hardwoods with groves of huge hemlock and red pine. A great variety of shrubs, including viburnums and dogwoods, grow here along with a rich herbaceous flora. This type of forest is considered to be rare and is of local, regional and state importance. It is owned by the University of Vermont and in April 1971, the University Board of Trustees adopted a resolution designating East Woods a Natural Area.

- Centennial Woods (uses: natural area, passive recreation, research, education). Centennial Woods is a 40-acre forest site of old age softwoods dominated by white pine, red pine and hemlock. Hardwoods characterized by red maple make up the understory. Forests such as this are not uncommon. It is considered to be of local, regional and state importance. It is owned by the University of Vermont. It was designated by the University Board of Trustees in April, 1971 as a Natural Area.

- Blasberg Horticultural Research Center Site (current uses: research, education, agriculture; planned uses academic/ residential). This 97-acre site is owned and operated by the university as a agricultural and horticultural research and education center. This area contains extensive orchards, ornamental trees and shrubs and natural woodland areas, meadows and ponds. The farm offers a diverse wildlife habitat and is a stopover for migratory birds. A prehistoric Native American village and artifact site are also located on this land.

- Miller Research Farm Complex (current uses: education, education, agriculture; planned uses: academic, undesignated). This 68-acre parcel contains the mains farm buildings and is used for education, research and outreach and includes a dairy herd, additional animals, solar research, and more.

- Bio-Research Complex (current uses: research, education, agriculture; planned uses academic). This 51- acre parcel includes land leased to USDA

Forest Service, solar power generation facilities, and agricultural cropland, among others.

- Edlund 1969 Tract (current uses: forested; planned uses unassigned). This site is an example of Pleistocene "fossil" sand dunes, associated with the Champlain Sea about 10,000 to 12,000 years ago. This sand dune field is located predominantly on UVM land on the west side of Spear Street approximately midway between I-189 and Swift Street. The occurrence of this phenomenon is rather rare and the report of the VNRC states that this site is in need of physical management to maintain its unique state. This sand dune field exists in a sensitive and fragile form within an urban environment. These dunes are considered to be significant on both the local and state levels.

- Main Campus (use: academic, residential) Portions of the main campus, including athletic fields, parking, tracks, etc. are located with the City of South Burlington along Spear Street.

- Additional sites – Deslauriers, Tracts, Martin Tract, Whittlesey Tract, Von-Turkovich Tract, Wheelock Tracts, Centennial: (current uses: natural areas, research, agriculture; planned uses: various). These tracts all form part of the University of Vermont's land bank and have various academic uses.

- **Vermont National Golf Course (uses: private recreation, public recreation use in winter).** A private golf course, city residents are permitted to make use of the Vermont National Golf Course fairways for snowshoeing and cross-country skiing during winter months when there is snow on the ground.

Community Parks, Lands & Facilities. Community parks, facilities, and lands are those that are designed for organized activities and sports, or serve as focal points for in various parts of the city. While they are generally open to residents and visitors from across the city and region, their principal use is from nearby neighborhoods.

- **Farrell Park (use: active recreation).** A 22.89 acre park, located on Swift Street; developed facilities include a fenced youth baseball field (little league size) a regulation size field that can be used for baseball, softball and soccer, and a playground and picnic tables. The Recreation Path goes through this Park. Parking is available.

- **Jaycee Park (uses: active recreation, community center).** A 6.9 acre facility on Patchen Road; it has one lighted youth baseball/adult softball field, small picnic area with shelter, basketball courts, playground, parking, an adjacent building with heat and rest rooms, and an open field area for field sports. The O'Brien Center is available for community meetings and special events.

- **Dumont Property (current use: natural area, passive recreation; planned use to be determined).** This small, city-owned parcel sits between Iby Street and San Remo Drive. It is located adjacent to Tributary 3 to the Potash Brook and areas that have been identified for future recreation associated with City

Center. A community planning effort will determine its ultimate design. Proposed Action: development of a park plan

- **Mayfair Park / Kennedy Drive Natural Area (uses: natural area, passive recreation).** This area encompasses approximately 50 acres of land on the northwest side of Kennedy Drive. Potash Brook runs through this land and there are many natural springs forming a wetland. Forest cover contains white pine and some mixture of hemlock, elm and red maple trees. This natural area was accumulated over the course of several years, having been initially identified as a natural area in the "South Burlington Natural Resource Inventory", September, 1967.

- **South Burlington High School Natural Area (uses: natural area, passive recreation).** Located on the north side of Kennedy Drive between east of the High School playing fields, this natural area serves as an important part of the Potash Brook tributary system with substantial wetland areas and includes a walking trail linking the school to nearby neighborhoods.

- **Goodrich Property (current uses: natural area, passive recreation; planned uses: wetland restoration).** Acquired as a permanent public easement by the city of South Burlington in 2010, this 22-acre open space site lies immediately north of the Muddy Brook Natural Area. It includes wetland areas, riparian banks, and various open and forested areas.

- **Orchard School (uses: educational facility, active recreation).** Owned and operated by SB School District, this 13.4 acre facility includes school buildings, a basketball court, a ball field, and playground equipment, ice skating is available in the winter months.

- **Central School (uses: educational facility, active recreation).** Owned and operated by SB School District, this 11.8 acre site includes school building; playground equipment, a ball field, and multiple-use field area. Ice skating is available in the winter months.

- **Chamberlin School (uses: educational facility, active recreation).** Owned and operated by SB School District, this 10.2 acre property includes school building, a basketball court, playground equipment, ball field, and multiple-use field area. Ice skating is available in the winter months.

Community Parks, Lands & Facilities Not owned by the city or schools. These lands and parks are owned by separate entities from the city and/or school district, but are open to the public for enjoyment. They typically serve a more localized population than city-wide facilities due to their size, accessibility, location, or intended intensity of use.

- **Muddy Brook Natural Area (uses: natural area, wetland mitigation, passive recreation).** Owned and operated by Winooski Valley Parks District, this natural area was purchased and restored for its wetland features by the

Burlington International Airport. Situated along the west bank of the Muddy Brook, it includes a clayplain forest area and walking trails for public use.

- **Winooski Valley Parks District Lime Kiln Park (uses: passive recreation, natural area).** Owned and operated by Winooski Valley Parks District. Situated on the west side of Lime Kiln Road immediately south of the Winooski River, this small public natural area and walking trail is perched high above the Winooski River with dedicated parking and an overlook onto the river.

- **Winooski Valley Parks District Muddy Brook Outlet (uses: passive recreation, natural area).** Owned and operated by Winooski Valley Parks District This public park is located at the confluence of the Muddy Brook and Winooski River. It includes a carry-in boat launch and a wide range of shrubs and forested areas.

Neighborhood Parks, Lands & Facilities. Neighborhood parks are publicly-owned, generally lightly developed or undeveloped recreational facilities that are intended to be focal points of local neighborhoods. Most users walk to these parks, though limited parking is provided in some cases.

- **Szymanski Park (uses: active recreation, passive recreation).** Twenty (20) acres in the south end of the City, reached by way of Andrews Avenue or Cranwell Drive. Park includes 2 lighted tennis courts, picnic tables, basketball court, tot lot, parking and fitness trail. The Recreation Path goes through this park.

- **Garvey Property (uses: passive recreation, natural area).** The Garvey property sits on Williston Road between Victory Drive and Mills Avenue. It is a small, linear, city-owned parcel connecting Williston Road and two parts of a long-established residential neighborhood.

- **DeGraffe Property (uses: passive recreation, natural area).** Located at the end of Duval Street and southeast of Queensbury Road, this small city-owned property is surrounded on all sides by residential neighborhoods. Its topography includes steep banks that fuel tributaries to Centennial Brook.

- Quail Run (uses: natural area)

Small lot sites. Neighborhood pocket properties, in most cases publicly-owned, undeveloped recreational facilities that either intended to be accessible to local neighborhoods or serve a current or future neighborhood function. No parking is typically available.

- **Baycourt Park (current use: passive recreation; future uses: possible active recreation).** Small neighborhood play area located west of Spear Street. It is presently maintained as an open field. Future use would be determined by development of a park plan.

- **Queen City Park lot (current use: unassigned; future use: unassigned).** This house-lot parcel is presently undesignated by the City.

- **Baycrest Park (current uses: passive recreation; planned additional recreational use to be determined).** Small neighborhood open space north of Allen Road. It is presently maintained as an open field. Future use would be determined by development of a park plan.

- **Butler Farms lots. (uses: passive recreation, stormwater management).** A series of small parcels located within the neighborhood. Historically open lots, they have recently been given a role in stormwater management for the neighborhood.

- **Queen City Park (uses: passive recreation, active recreation).** Owned and maintained by the Fire District, this 1.4-acre neighborhood play area serves the local neighborhood.

Private Parks, Conservation Lands, and Sports Complexes. A series of private parks, conserved lands, and sports complexes are owned and operated throughout the city. Several homeowner associations maintain facilities for this residents; while a handful of companies and clubs operate facilities for the public or for members. These include tennis courts, swimming pools, gyms, tot lots, community buildings, conserved farmland, and golf facilities. Facilities with specific city involvement include:

- **Vermont National Golf Course (uses: private recreation).** 18-hole Jack Nicholas Signature golf course, 2 tennis courts, a driving range, a 25-meter junior Olympic pool, and a skating rink. See note above regarding winter access for the public.

- **Rice High School (uses: education, private recreation)**. 30 acres, including buildings: includes 1 baseball field, I football field, I field hockey area and 1 running track.

- **Bread & Butter Farm (uses: agriculture)**. Totaling approximately 140 acres in South Burlington (~80) and Shelburne (~60), this farmland was conserved in 2010 by the Vermont Land Trust, City of South Burlington, and Town of Shelburne. The property was sold to the Bread and Butter Farm by the Vermont Land Trust for operation within an agricultural easement. It is operated as private land. The conservation agreement contains provisions for n public, unpaved recreation path easement connecting Cheesefactory Road to the Scott Property, in a location to be determined.

Primary and Secondary Schools. The South Burlington School District currently operates five schools that serve approximately 2,500 students in grades K-12, as described below:

- **Rick Marcotte Central School** (formerly the Central Elementary school) serves students in grades K-5 from a 12.1-acre site at 10 Market Street. The

59,000-square foot school had an enrollment of 361 students in 2010. The district's 2008 facility study determined the school had a capacity of 420 students, as compared to a capacity of 489 students established in the 1998 study.

- **Chamberlin School** serves students in grades K-5 from a 10-acre site at 262 White Street. The 76,000-square foot school had an enrollment of 258 students in 2010. The district's 2008 facility study determined the school had a capacity of 300 students, as compared to a capacity of 425 students established in the 1998 study.
- **Orchard School** serves students in grades K-5 from a 13.5-acre site at 2 Baldwin Avenue. The 57,000-square foot school had an enrollment of 361 students in 2010. The district's 2008 facility study determined the school had a capacity of 360 students, as compared to a capacity of 510 students established in the 1998 study.
- **Frederick H. Tuttle Middle School** serves students in grades 6-8 from an 80-acre site shared with the high school at 550 Dorset Street. The 111,000-square foot school had an enrollment of 530 students. The district's 2008 facility study determined the school had a capacity of 625 students, as compared to a capacity of 918 students established in the 1998 study.
- **South Burlington High School** serves students in grades 9-12 from an 80-acre site shared with the middle school at 550 Dorset Street. The 158,000-square foot school had an enrollment of 937 students. The district's 2008 facility study determined the school had a capacity of 750 students, as compared to a capacity of 1,200 students established in the 1998 study.

High-quality education for all children in the community is one of the most significant and basic services that the City of South Burlington must provide. The school system is actively engaged in planning for its future and maintains a current Strategic Plan. The tradition of close cooperation and communication between the School Board and the various municipal boards and commissions should be maintained. This is important in light of the shared interest of all city residents in the quality of the education system and in the increasing use of school facilities by community members.

The importance of public education is represented, in part, by the amount of funds allocated to the school system. Public education accounts for approximately 76 percent of property taxes collected in the city. Under the state's education funding formula, the South Burlington's school district receives back approximately 91 cents for every dollar of education property tax collected in the city, with the remainder supporting education in less property wealthy communities around the state.

University of Vermont. The University of Vermont owns 571 acres of land in South Burlington, which is part of its South Campus area. The South Campus is currently utilized primarily for instruction and research focused on bio-research, agricultural, horticultural and natural areas management.

Analysis and Challenges

Police. The need for and challenge of providing adequate police protection, a fundamental municipal service, increases as the population grows and businesses expand or locate in the city. The increasing pressures on the city caused by population growth, traffic, commercial and residential development all pose significant concerns for local planners, as well as police officials.

It is important that political leaders and the public not develop unrealistic expectations for community policing in terms of crime deterrence or speed of implementation. Community policing calls for long-term commitment; it is not a quick fix. Achieving ongoing partnerships with the community and eradicating the underlying causes of crime will take planning, flexibility, time and patience. Political and community leaders must be regularly informed of the progress of community policing efforts to keep them interested and involved. The police organization must stress that the success of community policing depends on sustained joint efforts of the police, local government, public and private agencies, and members of community. This cooperation is indispensable to deterring crime and revitalizing our neighborhoods.

Fire and Rescue. While there is no such thing as absolute protection, the degree of fire risk should be restricted to an acceptable level as the city grows. The best available source for fire protection standards has been the Insurance Services Office (ISO), which is a nonprofit organization financed by insurance underwriters and charged with the task of evaluating fire protection services in order to establish fire insurance rates.

The city's fire protection plan consists of two components:

- Using ISO survey recommendations as a guideline for budgeting future operating and capital costs for fire protection, and
- Including fire protection as a criterion in the review of new development (i.e. roads and access, building locations and materials, hydrant spacing, etc.).

Land Development and Emergency Response. It will be important for the community to plan for how emergency response will be will be able to effectively serve future needs, understanding that development patterns impact response strategies as well as facility and equipment needs:

- New development that is far away from existing stations places greater demands on time and equipment than development that is nearby.
- Need to be prepared for moderate annual increase in calls due to population aging and increased population / businesses
- The presence of the Burlington International Airport makes access to businesses and neighborhoods to the north more difficult from central locations in the city.
- As the more mixed use, higher-density development takes place, equipment, policies and training will need to be adjusted.

Library. In 2005, a facility study concluded that the existing library was approaching capacity and would require additional space to continue to function in the community's best interests. The study also stated that the high school benefits more than the community in the combined library model. While the community benefits from the current model by receiving the school custodial, maintenance and computer services, the study highlighted the significant problems in the combined model which include:

Lack of space for programs;

- Lack of quiet reading/study areas;
- Lack of parking;
- Excessive noise and a predominance of student use during school hours; and
- School regulations that impact public use of the computers, meeting space and library use.
- Phase II of the facility study, completed in 2006, defined future space needs if the library continues to serve both the public and the high school, as well as to determine the future space needs if the public library was to vacate its current home and construct a new public library. Extensive data was collected from The Wisconsin Public Library Standards (a nationally recognized standard), six community/school focus groups, a library consultant, and interviews with key stakeholders, and a survey mailed to random community members. The city is currently considering if a separate library should be constructed in the City Center area to serve the community.
- **Primary and Secondary Schools.** While the city has not been immune to regional demographic changes like an aging population and smaller families, the quality and reputation of the South Burlington schools continues attract families to the city. A 1999 survey of families with students new to South Burlington indicated that more than 80 percent moved here because of the city's reputation for a quality school system. The ability of families with children to move to the city is directly linked to the availability of affordable housing and employment opportunities. These interrelated factors need to be monitored on an ongoing basis to anticipate changes in enrollment that would trigger a need for expanded or new educational facilities or services.

Total enrollment in South Burlington has been reasonably steady during the past decade and school district projections do not indicate any significant changes on the horizon. While enrollments are not increasing rapidly, they are slowly growing and perhaps more significantly, the school district's educational programs are evolving to meet the needs of 21st century students. This had led to concerns about the capacity of existing facilities.

The capacity of the city's public schools is determined through a number of interrelated and frequently changing variables (state and federal regulations such as those which relate to special education, required support services and programs, teacher union contract provisions, curriculum and programs, and desired student-teacher ratios, etc.). For purposes of planning for future facilities, the district considers enrollment at

90 percent of program capacity to be an "action point" at which an additional facility is warranted for consideration.

In 1998, a *School Capacity Study* calculated the mathematical maximum capacity of the city's public school facilities is estimated to be 4,165 pupils (1,675 in grades K-5 and 2,490 in grades 6-12). This absolute capacity assumed 25 students per classroom evenly distributed across all grades and all schools. The maximum capacity was adjusted by an effective factor of 85 percent to reflect the reality of age, location and scheduling of the student population resulting in a program capacity of 3,541 students (K-12). However, a decade later the *Educational Visioning and Facility Master Planning* report determined that the district's K-12 program capacity was only 2,455 students (a figure close to recent enrollments). The 2008 report explored a number of alternatives for new, expanded and/or renovated school facilities to meet anticipated needs over the next several decades.

To ensure equal treatment of developers and to minimize the impact of new housing on school facilities, standards are used to estimate the number of school children generated by new projects. This number is based on the unit configuration (single- or multi-family), unit costs, whether it is renter or owner occupied, and size (number of bedrooms, square footage). The values assigned to these factors are confirmed and adjusted by periodic school department reviews. Such reviews are increasingly important as some of the city's schools are near or operating at their program capacity.

School finances continue to pose a challenge to the school system, a challenge that has been further complicated by Vermont's statewide education funding system. The changes to the state education funding formula that began with passage of Act 60 in 1997 have increased the tax burden on residential property owners in the city. For decades, South Burlington had sought to maintain a 50/50 split between residential and non-residential property value on the grand list in order to spread the cost of community facilities and services across a diverse tax base. The state education property tax system effectively results in a higher tax rate on residential property as any revenue to be generated above an established "excess spending limit" is derived solely from residential taxpayers.

University of Vermont. The University of Vermont's Campus Master Plan provides a flexible framework that can accommodate changes in attitudes about campus environments, new technologies and revised institutional requirements. The current plan directly addresses the growth of the campus through 2015, and looks forward to growth in the decades beyond. In 2006, UVM's Board of Trustees voted to approve the current version of the Campus Master Plan.

Chapter 5 of the Campus Master Plan provides an analysis of existing conditions, an analysis of the frameworks identified for campus planning, an overview of the design guidelines established for the South Campus, and an illustrative plan that provides an overview of the university's future vision for the South Campus. The Campus Master Plan has also identified a number of infill land banks to organize future development

Non-Transportation Improvements

1. Proposed New Water Tower (Hinesburg Road)

Summary	Acquire land and construct a water tower in the Southeast Quadrant.
Purpose	To ensure adequate water pressure to meet future needs from a location that is among the higher elevations in the city.

2. City Center Open Space (Market Street / Potash Brook)

Summary	Conserve an area of public open space as identified in the City Center master plan, focused on the natural features of the Potash Brook.
Purpose	To create an interactive natural area in the City Center area that provides for stream buffer and groundwater infiltration together with public interaction, education, and enjoyment.

3. City Park (Van Sicklen / Hinesburg Road)

Summary	Acquire land and develop a new municipal park with roadways and recreation paths linked into city-wide systems.
Purpose	To create a multi-purpose, citywide park for use by residents and visitors. Features of the park may include, but are not limited to: ball fields, picnic areas and shelters, playgrounds, community gardens, support facilities, complementary agricultural operations, renewable energy production, etc.

4. Proposed New City Park (Lakeshore)

Summary	Acquire land and develop a new municipal park with recreation paths linked into city-wide systems, continuing the waterfront system and providing public access to Lake Champlain.
Purpose	To create a multi-purpose, citywide park for use by residents and visitors. Features of the park may include, but are not limited to: ball fields, picnic areas and shelters, playgrounds, community gardens, support facilities, complementary agricultural operations, renewable energy production, etc.

5. Proposed New City Park (Muddy Brook)

Summary	Acquire land and develop a new municipal park with recreation paths linked into city-wide systems.
Purpose	To create a natural area and buffer to Muddy Brook for use by residents and visitors, complementing already conserved parcels and their walking trails. Features of the park may include, but are not limited to: walking trails, wetland restoration, renewable energy production, etc.

6. Proposed New City Park (Winooski River)

Summary	Acquire land and develop a new municipal park with recreation paths linked into city-wide systems.
Purpose	To create a natural area and buffer to the Winooski River for use by residents and visitors, complementing the nearby Winooski Valley Parks District land and their walking trails. Features of the park may include, but are not limited to: walking trails, wetland restoration, etc.

7. Proposed New City Park (Winooski River)

Summary	Acquire land and develop a new municipal park with recreation paths linked into city-wide systems.
Purpose	To create a community or neighborhood park for use by residents and visitors, providing access to neighboring residential areas. Features of the park may include, but are not limited to: recreation paths, ball fields, playgrounds, picnic areas, etc.

since the university's needs for academic, housing, administrative and support space will continue to evolve.

Land Banks in the South Campus are delineated primarily for two uses: academic and residential. Buildings and their associated infrastructure will fit within these designated areas when and if the university proceeds with a specific development initiative. The residential land banks might have some academic or institutional use associated with them but at this point in time there are no specific plans for such properties. Alternative housing strategies and joint community partnerships may be a possible consideration for these sites. The East Woods Natural Area serves important environmental and community purposes and is considered a no build zone.

From the city's perspective, the university-owned Centennial Woods Natural Area and East Woods Natural Area provide a tremendous benefit to the city and region in terms of open space preservation and passive recreation. In regards to the remaining parcels in South Burlington, it is the city's desire that the properties continue to be used for educational, research and agricultural purposes. These lands are well suited to an educational emphasis due their proximity to the main campus of the University of Vermont. In addition, the provision of higher education services contributes a far-reaching benefit to the welfare of the community and region, including quality education for the citizenry, attraction and retention of business, and relatively high paying jobs.

Future Needs and Trends

City Offices. In June 2007, a study committee presented a summary of city office needs. Many of these updates have been completed. City Hall has received major upgrades including: a new hvac system, mold removal, interior and exterior painting, carpets; the decades-old phone systems was upgraded, new audio and visual equipment is available for use in public meeting rooms, and new security infrastructure is in place; a new stormwater treatment system brings the property into line with city-wide goals, and new landscaping and signage has freshened the building, making it easier to navigate and serving as a place of pride for employees and citizens of the community. An employee kitchen, break area, and fitness center are amenities that will help attract and retain quality employees.

Emergency Management. Several population and development trends in South Burlington will shape emergency management in the coming years.

- **Population Growth and Development.** Housing development is expected to continue at a rate of average rate of 1.5 to 2.0 percent annually, with residential construction is expected to continue at a similar or slightly higher pace. Commercial development is also anticipated to continue at a similar pace. This development will likely include a combination of infill using facility infrastructure and new development requiring infrastructure extensions. It is also anticipated that growth and development will vary by individual year. Population, meanwhile, is expected to grow incrementally through 2020m, and then level off, according to a demographic forecast prepared in January 2015. As more people and businesses reside in and visit the community, emergency response needs will grow as well.
- **Population Aging.** Gradual aging of the resident population – and development of additional senior housing facilities - will influence future emergency response needs, in particular fire and rescue needs.
- **City Center Development.** The built environment of City Center – compact streets coupled with multi-story mixed use development – will influence future emergency response needs, including potential foot or bicycle police patrol, confined space fire and rescue training, and other specialized needs. This built environment may also provide opportunities for community sheltering.
- **Southeast Quadrant Development.** Anticipated development in the Southeast Quadrant will eventually necessitate a fire substation in that area of the city.

Primary and Secondary Schools. Schools are "creators of community" and an essential component of the city's quality of life. Accessible chools minimize the need for transportation for those students within walking distance. Sidewalks and signaled cross walks should be provided during the review process of new developments to allow students to walk safely to school. Similarly for those students outside walking distance sidewalks should be provided to school bus stops. These stops should be located away from residences or appropriately buffered so that waiting groups of students do not disturb residents. In general, city streets and sidewalks, especially along arterials and collectors, should be constructed to serve new residential developments and provide safe pickup stops for school busses that do not impede high volume of through traffic.

The continued build out of the Southeast Quadrant remains a matter of concern to the school district. It is evident that the collective impact of growth must be considered and not just the single impact of a project on the school district. The district has started planning for a new elementary school to serve students in the SEQ with a preliminary analysis of a site at Oak Creek Village. While the location has some environmental constraints (wetlands and natural community corridor), the study indicated that an elementary school could be accommodated. The relocation the city's middle or high schools to the site was determined to be less feasible.

Community Facility & Services Objectives

Objective 7. Provide quality public facilities and services, identified through collaborative strategic planning, that meet present-day needs and are programmed to anticipate needs at least 20 years into the future.

Objective 8. Provide a K-12 educational system allows students to meet or exceed state and national targets for attainment.

Objective 9. Provide opportunities and space for city residents of all ages and abilities to participate in life-long educational, recreational, and community service for both personal enrichment and to strengthen neighborhood and community connections.

Objective 10. Provide ease of access to city governance and raise rates of public participation in decision-making.

Community Facility & Services Strategies

Strategy 17. Develop and annually maintain a capital budget and program for future public facility and utility needs; link to Impact Fee Ordinance.

Strategy 18. Improve and expand public facilities and services in a manner that supports, complements and reinforces the land use and development recommendations of this plan, which includes a preference for infill over expansion of existing service areas.

Strategy 19. Plan for people-oriented public facilities - including a city hall and/or community library and environmental infrastructure- in the City Center area.

Strategy 20. Provide ease-of-access to public information and feedback through tools such as CCTV, the city website, social media, and traditional media, and continue a policy of open governance.

Strategy 21. Encourage the provision of open space and dedicated park land that accentuates the school district's educational goals by providing for experiential and applied learning experiences.

Strategy 22. Regularly evaluate the City's policies regarding use of city infrastructure.

Strategy 23. Create and implement policies and incentives that will attract high-quality and affordable childcare.

Strategy 24. Develop a public facilities impact fee to support the establishment of municipal facilities to meet the community's needs

Strategy 25. Implement identify projects within the All Hazards Mitigation Plan including river corridor management.

E. Quality of Life

The South Burlington Comprehensive Plan is intended to provide a road map to the continued efforts of the community to provide the highest possible quality of life for its current and future residents and visitors. This is met through establishing policies that support the needs of an increasingly diverse population in their homes and search for housing, in their workplaces, in their schools, in their recreation, and in their

community as a whole.

Overview

The focus of this plan is on the physical environment that the community shares: natural areas and rivers, parks, neighborhoods, commercial and employment centers, roadways and recreation paths. The physical space sets the groundwork for true quality of life measures: affordability of housing, availability of employment, mobility of transportation, conservation of natural resources, provision of community and emergency services, and opportunities for public interaction and gathering.

Each chapter of this Plan is designed and drafted to support this effort from the various perspectives and topic areas that influence or are influenced by the use of land and the provision of services by the city and schools. A handful of important contributing factors to a high quality of life in the city, however are not specifically enumerated elsewhere in the Plan and therefore are discussed below. They include:

- Design of the built environment
- Public and community services
- Community engagement

Design of the Built Environment

There are defined aesthetic qualities that affect the perception of South Burlington. The built environment, open spaces, scenic views, and natural areas help to define the city as well as its various neighborhoods and business districts. New design should respect the existing landscape and positively contribute to it. Open spaces and natural areas essential to scenic views and historic landscapes should be identified and preserved for future generations. This plan seeks to allow for responsible development that positively contributes to the community while preserving the essential elements of the city's landscape that define South Burlington for future generations to enjoy.

Among the strategies of this Plan to promote a quality built environment:

- **Design Review/Form Based Codes.** The city has successfully implemented several design review districts within its City Center. This effort has proved successful and it is a concept that is proposed to be explored in other areas of the city. It is in the interest of the city to improve its appearance in order to enhance the quality of life for the city's residents, businesses and visitors.
- **Public Infrastructure.** Improvements to the appearance and aesthetics of the city can be accomplished by such actions as placing utilities underground, planting trees and landscaping along city streets, and enforcing sign regulations.
- **Landscaping.** Several existing features in the Land Development Regulations should be maintained and applied in order to improve the aesthetic quality of the city. These may include landscaping requirements, setbacks, buffers around project perimeters, conservation of existing vegetation, berming in

select areas, shielding large parking areas with landscaping or buildings, and buffers between conflicting land uses.

- **Lighting.** Continuing to require that lighting within the city be attractive and downcast is an important component of the community's aesthetics. The inclusion of incentives or requirements for energy efficiency, dark sky compliant standards, and pedestrian-scaled design should also be explored.

- **Stormwater.** Stormwater has become an increasingly important issue in urban design as stormwater facilities and low-impact development techniques are implemented throughout the city (See the Grey Infrastructure chapter). These have the opportunity to be attractive elements of the community if implemented as part of a thoughtful design.

- **Context-Sensitive Site Design.** The city should also encourage the retention of historic landscapes and the restoration of others. The use of additional alternatives to achieve improved aesthetics should be explored, such as requiring variable setbacks, the use of high quality traditional building materials, and locating parking to the rear of commercial establishments. It has been a trend in many sectors of the retail area to construct cheap structural shells that are easily changed to accommodate market fluctuations. The city should work with the development community to identify tools to improve the quality and aesthetics of design while maintaining the flexibility.

- **Quality of Construction.** The city should guard against poorly built structures that are designed to last less than 50 years. Poor construction of new building could degrade the quality of the city's built environment as these buildings become used well beyond their expected life span.

- **Public Spaces.** It is important that public spaces continue to be fully integrated into the built environment. These public spaces, be they parks, recreational paths, sidewalks, public squares, outdoor seating at restaurants, and more, contribute substantially to the quality to life within the city and help to foster a true sense of community.

- **Open Space Management.** The city's public open space areas provide a significant amenity to the community in terms of their conservation of natural resources, their aesthetics, and their availability for public use. Over the past decade, the need to develop long range management plans for the city's open space has become clear. The city should continue to develop, maintain, and Implement these plans.

Together, these strategies, combined with those from elsewhere in the plan, are intended to implement a smart growth strategy of efficient use of land and maintenance of high quality developed and undeveloped areas. In the past decade, the city has participated in the establishment of several such areas, including development of the Farrell Street neighborhood, adaptive re-use of buildings along Dorset Street, and conservation management planning for the Wheeler Nature Park.

Public and Community Services

Several chapters of the Comprehensive Plan provide objectives and strategies related to public infrastructure and facilities designed to serve the needs of the community: streets, recreation paths, water and wastewater facilities, parks, municipal and school buildings, community spaces, and libraries, among others.

Related to each of these facilities are the services and activities that take place on and within them, and the need to maintain them for ongoing use. The breadth and quality of these services plays an important role in the quality of life in the city. These services fall into a two broad categories:

- **Community Facility Maintenance.** The upkeep and planned upgrade of public and quasi-public facilities, such as snow plowing, building repair, and pipeline maintenance, are the responsibilities of the system owners and should be planned for on a regular and ongoing basis. Maintaining these facilities allows not only for the basic needs of the community to be met, but provides opportunities for public interaction and enjoyment. It also allows for private community groups to meet and host their activities.

- **Public Services.** Community services such as fire, police, recreational programming, education, and libraries are critical components of the quality of life of a community. These services provide for both immediate needs and for long-term tools for success and enjoyment by the public. The city has worked to enhance many of these services and facilities in the last decade, including the creation of a community room with the new police station, establishment of new public open spaces with the voter-approved conservation fund, enhancement of recreation, library, seniors, community policing, stormwater, and overall services of the city, and creation of a new family of city logos that are designed to reflect the community and its residents.

Community Engagement

Residents of the city have a long history of direct involvement in local organizations and municipal governance, as well as a tradition of knowing and helping out their neighbors. Healthy communities are ones in which residents play an active role. In South Burlington, the need for civic engagement is high; a successful community relies heavily on the opinion and work of volunteers.

Public involvement takes multiple forms. Three in particular are addressed below: voting, community activity participation, and volunteerism. Each of these reflects a commitment to the community.

- **Voting and Participation in Local Decision-Making.** Residents of South Burlington have long voted on the election of municipal and school board officials and the school budget. In 2008, an amendment to the municipal charter was enacted providing the voters with the responsibility to vote on the annual municipal budget as well. These four key votes – in addition to those for special ballot items – provide the backbone of the city and school's operations and require an important framework of public information sharing

amongst elected officials, staff and the public. In between these key annual votes, volunteer boards and committees meet on monthly or semi-monthly basis, hosting discussions and debates and making important decisions regarding the future of the community. Participation by the public in these regular meetings and events is an important element of maintaining a strong, connected community and making effective decisions for its future.

At the core of public participation is the need for transparency in operations. The city's charter change to require voting on the budget is an example of this transparency, as is the posting of meeting agendas and studies on the city's website and overall open approach to public meetings.

- **Community Activity Participation.** South Burlington residents have – and make use of – substantial opportunities to participate in community events, both within the city itself and throughout the vibrant Chittenden County area. Local community-based activities and events, such as recreation programs, Green-Up Day, Fire Department activities, and library events provide opportunities for enrichment and interaction, and for community members to get to know one another; all critical components of a community with a high quality of life. A parallel opportunity for South Burlington is the existence of a tremendous variety of activities and programs in Burlington and throughout Chittenden County. Participation in these activities helps to enhance the overall sense of regional community. It is important residents continue to be offered opportunities to engage locally – through community or neighborhood events– to increase community pride and to link all facets of the community.

- **Volunteerism.** Volunteerism is a critical backbone of any successful community. In South Burlington, over 80 volunteers serve on more than a dozen different committees and boards just for the city. Volunteers associated with the South Burlington schools, community groups, and non-profit organizations within and outside the city extend this figure many fold. In addition, many donors have contributed to the community over the years, enhancing facilities and services for all residents to enjoy. The city should continue to foster volunteerism and participation in local governance through open and transparent meeting practices, providing community meeting space, use of emergent technology, and outreach to interested individuals who have expertise in various subject areas and wish to serve the community.

Quality of Life Objectives

Objective 11. For all new development, public and private, consider accessibility for users of differing ages and physical abilities.

Objective 12. Build and reinforce diverse, accessible neighborhoods that offer a good quality of life by designing and locating new and renovated development in a context-sensitive manner.

2.3. Gray Infrastructure

A. Transportation

The conveyance of people, goods, and services is a key element of South Burlington's residential and commercial health. Transportation systems should be designed to provide residents and visitors access to cost-efficient alternatives for getting to their desired destinations. In addition, transportation systems should provide for the orderly and continued economic growth of our community. The improvements and expansion of transportation systems should also proceed in a way that complements the pattern of existing and proposed land uses. Planning of such systems should be geared to the limited supply of energy and land.

Overview

Key issues and needs related to transportation in the city include:

- South Burlington is shifting from an automobile-dependent, suburban development pattern to a multi-modal, urbanizing development pattern. This transition requires changes to the city's transportation system to accommodate bicycle/pedestrian travel, transit and greater connectivity in support of the land use goals of this plan.
- Short commutes, pleasant residential neighborhoods and contiguous open areas are key elements of South Burlington's quality of life. To maintain both, the city will need to avoid traffic congestion (through development of a more efficient, interconnected local street network and through major highway projects such as the Route 2 corridor improvements and Exit 12B) while mitigating the impacts of through traffic on residential streets.

Inventory

Travel Corridors and Roadway Network. There are approximately 100 miles of roadway in the City of South Burlington. Each of these roadways serves multiple users, from automobiles, busses, and commercial trucks to pedestrians and cyclists. Within each roadway corridor, the city (or state for certain roads) must determine the most effective combination of infrastructure within the limited right-of-way. The city's existing transportation network is shown on *Map 5. An inventory of conditions within key corridors is below:

1. **Interstates 89 and 189.** These routes serve as the primary long distance travel corridors in the region, connecting Chittenden County to areas to the north and southeast. They also serve an intra-regional function connecting with the local transportation network.

   Travel Infrastructure. Four lanes of divided vehicle travel, with full interchanges at Williston Road (Exit to I-89), Shelburne Road (to I-189), and

an interchange that provides access between the two interstates and between Kennedy Drive and Shelburne Road (Exist 13 to I-89 and I-189).

Missing Links and Needed Improvements. Needed improvements focus on accesses to the interstate itself, including needed ramp improvements at Exit 14 and the potential for new interchange accesses within the city.

2. **Shelburne Road (US Route 7).** This route serves as the primary north-south access for the western corridor of Vermont as well as the principal collector for residential neighborhoods and employment centers in the southwestern portion of South Burlington. It also provides direct access to I-189. Major improvements to the Shelburne and South Burlington (to Imperial Drive) segments of this route were completed in 2006.

   Travel Infrastructure. Four lanes of vehicle travel with medians for local and regional automobile travelers, commercial vehicles, transit service, on-road bicycle lanes and sidewalks.

   Missing Links and Needed Improvements. The section of Shelburne Road north of IDX Drive does not contain medians or on-road bicycle lanes, limiting the efficiency of vehicle travel and forcing bicycles onto relatively narrow sidewalks. Safety for pedestrians and cyclists crossing this section of Shelburne Road is also a concern.

3. **Williston Road (US Route 2).** This route provides local and regional east-west access through Chittenden County. Prior to the construction of I-89, it was the primary east-west corridor in the region. Now its role has been redefined as serving primarily local travel needs for people who live and work in the vicinity of the corridor. The updated 2012 Route 2 Corridor Study provides an extensive description of existing conditions on the highway, and short- and long-term solutions to congestion, access, and safety problems. In June 2010, the Chittenden County Transit Agency initiated a revised, direct corridor service along this route that includes 15-minute bus headways in each direction at peak commuter hours.

   Travel Infrastructure. Four lanes (reduced to two lanes east of Route 116) vehicle travel for primarily local automobile travelers, commercial vehicles, and transit service; 5'wide bike baths and sidewalks (intermittent east of Air Guard Road). The City completed a widening of of US2 nearest the Sheraton Hotel in order to accomodate incrased traffic volumes and address lane confusion for interstate access.

   Missing Links and Needed Improvements. The Route 2 Corridor Study highlights several key needed improvements, including access management, pedestrian safety, the need for bicycle infrastructure throughout the corridor and crossing the Interstate, road network capacity west of I-89, and the lack of park and ride facilities.

4. **Hinesburg Road (VT Route 116).** Hinesburg Road provides primary access between the Burlington area and communities to the southeast. Its northern extremity also lies at the core of a long-establish residential neighborhood, connecting residents to Williston Road and Kennedy Drive.

Travel Infrastructure. Two lanes of vehicle travel for primarily local automobile travelers and commuters from the southern Chittenden County, limited transit service north of I-89; sidewalks on one side of the street north of Hayes Ave, wide shoulders for bicycles south of Tilley Drive.

Missing Links and Needed Improvements. The northern extremity of Hinesburg Road will need some upgrades in terms of signalization and access management associated with City Center. Sidewalks are missing south of Hayes Avenue towards Tilley Drive, but funding is allocated and plan development underway. The planned interstate interchange (Exit 12B) will also require upgrades.

5. **Patchen Road.** Patchen Road serves as the extension to Hinesburg Road north of Williston Road, connecting South Burlington with Riverside Avenue and Colchester Avenue at the Burlington–Winooski border. The bridge over I-89 is one of only a handful of connectors between the communities. The character of development adjacent to Patchen Road is primarily lower density residential, but the route is used by a handful of commercial and industrial establishments located in Burlington or South Burlington.

   Travel Infrastructure. Two lanes of vehicle travel for primarily local automobile travelers, and some heavy trucks, sidewalks on one side of the street at its southern end; wider lanes that allowed for shared use in some areas.

   Missing Links and Needed Improvements. Sidewalks exist at the southern end of Patch Road, but do not continue northwards. In addition, sidewalk connections to Burlington are limited. Space exists for bicycle lanes in some areas, but have not traditionally been striped for such use. Recently approved development of a housing development on the Burlington side will complete these missing connections. Traffic caused by heavy trucks remains a challenge in the residential areas but should be reduced significantly when SD Ireland relocates from their property which is to be the site of the new housing development.

6. **Spear Street.** This route parallels Shelburne Road, serving primarily residential transportation needs. The 2004 Spear Street Corridor Study includes a full analysis of the roadway's existing conditions, and recommended strategies for maintaining its functionality and level of service as development proceeds.

   Travel Infrastructure. Two lanes of vehicle travel for primarily local automobile travelers and commuters from the Shelburne area. Repaving in 2013 made shoulders wider and adequate for bicycles on both sides south of Swift Street, separated recreation path north of I-89.

   Missing Links and Needed Improvements. Recommended improvements for this street are found in the 2004 Spear Street Corridor Study, including intersection improvements at the Swift Street intersection and improved bicycle lanes.

7. **Dorset Street.** Dorset Street serves commercial and higher-density residential land use at its northern extent and becomes a north-south collector serving primarily residential transportation needs further south. The 2007 Dorset

Street Corridor Study describes existing conditions and recommends strategies for improvements to ensure the corridor's ability to maintain and expand high levels of service and safety for all users.

Travel Infrastructure. North of Kennedy Drive, Dorset Street is a four-lane road with a median, transit service, and sidewalks/bicycle path on both sides. South of Kennedy Drive, Dorset Street is a two-lane road with intermittent recreation path sections parallel to the roadway.

Missing Links and Needed Improvements. Recommended improvements for this street are found in the 2007 Dorset Street Corridor Study, including intersection improvements at the Swift Street intersection and improved bicycle paths and sidewalks south of Cider Mill Road. The City is working with the CCRPC towards adaptive signal control on the northern stretch of Dorset Street.

8. **Kennedy Drive.** Kennedy Drive connects I-189 to Williston Road and serves as an important local arterial connection and primary access to the Burlington International Airport.

   Travel Infrastructure. Kennedy Drive was fully reconstructed in 2007 as a landscaped four-lane boulevard, with a planted median island, on-road bicycle lanes, recreation path, and sidewalks. Regular transit service is also provided on this road.

   Missing Links and Needed Improvements. No needed improvements have been identified for this roadway at the present time.

9. **Airport Parkway / White Street / Airport Drive.** These three roads, together, serve as the primary link between South Burlington and Essex / Colchester, provide access to one of only a handful of crossings over the Winooski River, and to the Burlington International Airport.

   Travel Infrastructure. Airport Parkway consists of a two-lane roadway with limited sidewalks at its southern extremity. White Street and Airport Drive are two-lane roadways with sidewalks on one side.

   Missing Links and Needed Improvements. Access in the vicinity of the confluence of these roads is problematic as commuter, business, and airport-bound traffic converge on primarily residential streets. No bicycle lanes or sidewalks have been established north of Kirby Road along Airport Parkway, while White Street is under-servedunder-served by sidewalks, with none on the side of the street occupied by the Chamberlain Elementary School. Transit service is present along White Street and Airport Drive, but does not extend along Airport Parkway. The potential for an Airport Parkway relaignment could lead to better access to BIA and would remove some traffic from neighborhood streets.

10. **Kimball Avenue.** Kimball Avenue runs parallel to Williston Road between Kennedy Drive and the Williston town line. The roadway serves as a collector for local businesses, a short-cut for traffic reaching retail destinations in both communities, and as a bicycle commuter route.

Travel Infrastructure. Kimball Avenue consists of a two-lane roadway with narrow bicycle lanes on both sides and a partially-established recreation path on the southern side. Limited bus service is also provided on Kimball Avenue as part of the South Burlington Connector route.

Missing Links and Needed Improvements. While in vehicular access to and from Kimball Ave is generally strong, a connection to Tilley Drive is planned for some point in the future. The bicycle infrastructure on the roadway remains limited and in need completion (both in term of on-road striping and recreation paths). The city is working with the CCRPC to complete path connection to the Williston town line.

11. **Secondary Roads.** A substantial network of collector and neighborhood roads link into the primary travel routes in South Burlington described above. These vary in width, size and amenities, but generally consist of two travel lanes, sidewalks (on collector roads and newer roads), and on-street parking.

Traffic Volumes. The state highways and several local roads in South Burlington are heavily traveled. Nearly 40,000 vehicle trips are made each day on Williston Road (US Route 2) nearest the Exit 14 interchange, with 30,000 trips per day on Shelburne Road (US Route 7). Hinesburg Road carries around 11,000 vehicle trips daily. Other main travel routes include Dorset Street, Kennedy Drive, Kimball Avenue, Old Farm Road and Shunpike Road. Some of the roads that have experienced the greatest increase in traffic volume in recent years include: Kimball Avenue, Old Farm Road, Shunpike Road, Dorset Street and Spear Street. Up-to-date traffic data is maintained by the Chittenden County Regional Planning Commission.

Road Standards and Regulations. South Burlington has adopted road standards and uses its land use regulations and Official Map to maintain and improve traffic safety and efficiency. The regulations require new development to maintain a certain level of service and the city seeks to avoid exceeding D levels of service or less at peak roadway hours at signalized intersections. The city's regulations can also be used to limit high traffic generating uses in certain locations.

Recreation Path and Sidewalk System. The city's sidewalk and recreation path network is important component of the transportation network envisioned to provide safe non-motorized interconnections both within South Burlington and between the city and adjoining municipalities. South Burlington ordinances allow bicycle riding on sidewalks and recreation paths alike.

The network includes a combination of segments existing alongside roadways and segments that are more circuitous, following natural features or parks. Currently there are more than 70 miles of sidewalk and more than 26 miles of paved recreation path in the city. Most new residential and commercial streets have sidewalks on at least one side and all new developments are required to provide sidewalks or their equivalent. However, sections of major roads, such as Spear Street, Williston Road, Allen Road, Airport Parkway, Kimball Avenue, and Swift Street lack sidewalks, and frequently where there is sidewalk, it ends abruptly.

The existing recreation path system has its origins in a grass-roots citizen effort to provide for safe travel routes away from automobiles. After extensive public involvement, the group prepared and presented a recreation path proposal to the City Council in 1989. The council enthusiastically endorsed the project and designated an official city committee to oversee the path system. Initial construction of the path system was completed in 1992 and additional segments have been added since, funded through a combination of city funds and grants.

Pedestrian Trails. Currently there are 10.3 miles of formally recognized pedestrian trails in the city. There are numerous other short sections of trail created informally in various neighborhoods. Pedestrian trails are intended to remain in an unpaved, natural state, while recreation paths are intended to be paved for more intensive uses such as bicycling and in-line skating. The two networks should be complementary and interconnected.

Planning for a public pedestrian trail network began in 1969 and culminated in specific proposals in the 1974 Comprehensive Plan. Those proposals have been largely implemented through site plan and subdivision review. Also, requests for critical trail links have been made directly to landowners irrespective of any development plans.

Bicycle and Pedestrian Committee. The Bicycle and Pedestrian Committee (formerly the Recreation Path Committee) seeks and provides guidance on path development from City Council, the Planning Commission, the Development Review Board, other city committees, and the general public. The committee holds regular monthly meetings, which are open to the public. The committee also coordinates its planning efforts both with surrounding communities and with regional, state, and national path-related programs. The committee promotes use of the recreation path system and reminds the public about safety rules via occasional articles in The Other Paper. The committee also recommends pavement marking and signage both on the path and on the roads to improve safety for pedestrians and cyclists.

Path or Trail Easements. Easements obtained over private land are the primary means of locating paths and trails in the city. Easements are usually obtained during the process of development review. Typically the Recreation Path Committee makes recommendations on desirable easements and path/trail alignments to the Development Review Board. The DRB and planning staff then negotiate with the landowner.

Transit Services. The Chittenden County Transportation Authority (CCTA) was formed in 1973 to serve the mass transit needs of it member municipalities. CCTA has grown to provide transit service throughout much of the region through a network of approximately 20 bus routes, as well as commuter links to Montpelier, Middlebury and St. Albans. Ridership has grown steadily since the system's inception and has ranged from three to eight percent annual increases in recent years.

CCTA is funded through annual dues from its member municipalities, state and federal programs, and fares. CCTA passengers may pay per trip or purchase passes at a reduced rate. Discounts are available for senior citizens and student, and some employers and colleges offer free or reduced rate passes to their employees or students.

Three fixed routes serve the City of South Burlington: Shelburne Road, Williston Road, and the South Burlington Collector. The Williston Road route has among the highest weekday ridership of any route in the CCTA system and was recently redesigned to provide direct access between Williston and Burlington along Route 2, with only the University Mall as a detour. This was coupled with providing service every 15 minutes at rush hour. Both of these changes were implemented following an extensive planning process for the Route 2 Corridor that includes recommendations for improved transit service. This service is complemented by commuter link services in the direction of Montpelier, Middlebury, and St. Albans.

CCTA has placed a significant focus on ridership connections: outfitting all buses with bicycle carriers, providing additional shelters for riders, and coordinating with local, regional, and state partners on park-and-ride facilities and transit-friendly site design for new development.

Air Transportation. Burlington International Airport, a joint civil-military public airport, is managed by the City of Burlington and the federal government. The airport, which sits on nearly 950 acres, dominates land use in the northeastern quadrant of South Burlington. The Airport Master Plan, documents the facility's existing status as well as future proposals through the next 20 years.

During the 2000s, the airport experienced an increase in growth and service. Between 2000 and 2008, $24 million in renovations and expansion were invested at Burlington International. The airport authority recently completed a $15 million expansion project that added five gates, customer service areas, a 948-space parking garage and an elevated connected walkway. A new garage expansion to add two additional floors was opened in 2011.

In recent years, the airport has averaged approximately 250 aircraft operations per day (50% general aviation, 30% air taxi, 5% military and 15% commercial). There are around 100 aircraft based at the airport including nearly 30 military aircraft. In recent years, the airport has enplaned approximately 750,000 passengers annually. Passenger flights to New York City, Washington D.C., Chicago and other regional hubs are available from the various airlines that fly out of Burlington International Airport. Both major commercial parcel carriers (UPS Airlines and FedEx Express) fly into Burlington International Airport, providing service for much of northern Vermont. Two military installations are based at the airport: Burlington Air National Guard Base 158th Fighter Wing and the Army Aviation Support Facility (AASF) of the Vermont Army National Guard.

Rail Transportation. The Vermont Railway and the Central Vermont Railway both maintain tracks through South Burlington. These routes are presently used on a limited basis for freight service and summer tourist trains. Commuter rail service between Burlington and Charlotte was offered on the Vermont Railway along Route 7 from late-2000 to early-2003. Long-range plans at the state level call for passenger service to be re-established southward towards Middlebury, Rutland, Albany and New York City.

Analysis and Challenges

Interconnected Road Network. South Burlington's road network has a significant lack of the lack of east-west connections, as well as neighborhood and commercial district connections in general. This lack of connections overburdens the few intersections able to provide connectivity and results in unnecessary congestion. Alternate travel routes have been planned to relieve some of the pressure on the existing arterial network. The city has adopted an Official Map that includes several additional east-west connections and other improvements. These improvements are also shown on *Map 8, Future Infrastructure Improvements.

The planned roads will provide alternate routes of travel and result in a more grid- like network of streets. A grid network provides more alternate routes of travel without unduly impacting any single street with traffic cutting through the neighborhood as a shortcut. From the 1970s through the 1990s, many of the residential developments in the city constructed cul-de-sac and dead-end streets, which exacerbate traffic issues on the few streets that do provide access to neighborhoods.

The wider distribution of traffic into a more efficient network will result in increased traffic for some of the roadways in the vicinity of the planned roads. In 2001, Chittenden County Metropolitan Planning Organization [formerly and is now the CCRPC] prepared an analysis for the city, which documents the likely impacts and changes to traffic flows that would result from constructing the planned roads. The study showed that as the number of trips to or from the Taft Corners area of Williston grows and additional development occurs in South Burlington, the need for efficient transportation facilities to serve the demand increases. The study recommended roadway designs that are sensitive to the character of neighborhoods and that can discourage cut-through traffic while still providing access and mobility for neighborhood residents as well as through travelers.

Multiple Users. Much of the South Burlington road network was originally designed for a single purpose: to serve automobile traffic. The network has been undergoing a long-term retrofit to include other primary users, including bicyclists, pedestrians, transit service, and truck traffic. In many cases, this has taken place within existing rights-of-way, but in some cases road widening has been necessary. Several key roadways – notably Williston Road and some of the collectors that serve it – continue to provide only marginal transportation alternatives, which over time has led to increased vehicular traffic. With increased demand for bicycle, transit and pedestrian amenities to be a part of the standard roadway network, the city will need to evaluate alternatives for the use of existing rights-of-way.

Recreation Paths. With increased use of the path system (including sidewalks, recreation paths, trails, etc.), the need for the Bicycle and Pedestrian Committee to examine all users and all forms of infrastructure has grown over the past two decades. This need will continue into the future.

Access Management. Access management describes a set of strategies that can be applied to prevent congestion and improve safety as development occurs along road

corridors. Access management can greatly improve the safety and efficiency of arterial streets by reducing the conflict between "through" and "local" traffic. South Burlington has incorporated access management strategies into its land use regulations and is actively working with landowners to implement access management strategies along heavily traveled roads.

Accommodation of "through" traffic on arterial streets carries a higher priority than access to frontage properties. The general pattern of existing and approved developments on Kennedy Drive and Kimball Avenue epitomizes a reasonable configuration of an arterial highway (i.e., few curb cuts and provision of service roads). Along Route 2 and most of Route 7, where highly fragmented ownership patterns have evolved over many decades there are extreme conflicts between "to" and "through" traffic. Consequently, even greater congestion in these areas can be reasonably anticipated for the foreseeable future.

There are several techniques and improvements that could be implemented, and at least should be explored, in order to improve upon existing problems, provide for anticipated future growth, and maintain the safety and an adequate level of service on arterial streets. Certain geometric improvements can be made to improve safety and maximize capacity. Examples include and safety through installation of proper signing, striping, and control equipment; or provision of stacking lanes at mid-block and intersection locations to segregate "to" and "through" lanes. (This may require purchase or exaction of land for road widening of substandard rights-of-way). Parallel access roads, such as San Remo Drive, provide helpful means of access to development off of a main transportation corridor.

Transit. The recent enhancements to the Williston Road route were reflective of a demand that had exceeded supply in terms of service in the area. As development density increases in this area – particularly with the establishment of City Center – these needs will again increase. A significant challenge to transit providers in recent years has been the location of new development in areas not presently served. The medical facilities in the vicinity of Tilley Drive and Hinesburg Road are examples, as are some senior living facilities throughout the city. CCTA and the city will need to both plan for meeting these needs, as well as provide specific strategies to ensure effective and efficient land use along existing transit corridors.

Airport. The airport is a vital element in economic development and transportation for the county and surrounding region. The continued success of the airport will be characterized by increased aircraft operations, runway and terminal improvements, and increased ancillary activity at the southern end of the airport. In the areas of economic development and transportation, the interests of the city and the airport are very closely aligned. Improved roads and transit service in the city generally enhance use of the airport, and the attraction of further light industry to the city will be influenced by proximity to an airfield with the broadest possible range of air service.

There are some areas of conflict that the city and the airport have been striving to improve. Principally, these are the pre-existing residential neighborhoods in the

immediate environs of the airport, including the impact of air noise and consumer travel to and from the airport.

The airport completed a 20130 Master Plan. The most recent information available projects that airport enplanements will double in the coming 20 years, as they did in the past 20 years. The plan includes multiple proposals for traffic mitigation, including a new access to the interstate. The City has not yet taken a position on the plan or its individual elements.

Future Needs and Trends

Pedestrian and Bicycle Circulation. Walking and bicycling are healthful transportation modes that until the 1990s were largely overlooked in the city's spending and planning priorities. Bicycling, walking and jogging are increasingly popular for both recreation and transportation. Greater incentives to promote non-vehicular travel can and should be implemented to minimize dependence on the automobile for local circulation. In addition, pedestrians and cyclists in an automobile-oriented environment must receive appropriate consideration.

Pedestrian links are needed between neighborhoods, schools, parks, shopping and employment centers, other transportation modes and other community focal points. In order to promote such links as transportation facilities, pedestrian ways generally should follow direct travel routes whenever possible, rather than paralleling roadways. In addition, pedestrian/bicycle ways should be designed to reduce conflicts with motorized vehicles. Sidewalks and pedestrian ways that parallel roadways should be constructed on both sides of arterial streets, on one or both sides of collector streets, and on at least one side of local streets. Sidewalks and pedestrian ways should be ramped at all street and drive crossings and properly graded so as to accommodate the elderly and handicapped. In addition, it is important that all signalized intersections include a pedestrian phase in order to allow pedestrians to safely cross busy roads.

It is imperative to carefully plan for and implement safe provisions for pedestrians and cyclists when constructing, modifying and/or upgrading roadways: this represents a complete streets approach. Along arterial streets, separate or shared facilities for bicycle/pedestrian use should be provided. This need is particularly strong along the Williston Road corridor. On collector streets, bike/pedestrian routes should be designated by signs in conjunction with pavement widening and painted lines. On local streets where traffic volumes and speeds are low enough to pose few hazards to pedestrians and cyclists, bike/pedestrian route designations by signing alone should suffice. In addition, the University of Vermont, as a major focal point, must be closely involved with pedestrian and bicycle planning, particularly along Spear Street where its major holdings are located.

Pedestrian travel can also be promoted through land use policies. Mixed-use developments consisting of residential and non-residential uses, or office, restaurant and retail, enhance pedestrian movement by congregating services and facilities within walking distance. In addition, compact, mixed-use city or village centers create a more

pedestrian friendly environment as opposed to linear strip development patterns along arterial roadways.

Traffic Data. The traffic data essential to equitable review of new development, such as volume counts, turning movements and volume-to-capacity ratios, should be collected and maintained. These factors affect the cost efficiency and proper timing of new roads or improvements, as well as the maintenance of reasonable levels of service.

Road Design and Construction Standards. The design and construction of local streets should be reviewed in general accord with their classification and the following principles:

- Privately owned and maintained roadways should be strongly discouraged;
- The speed and volume of "through" traffic should be minimized;
- More than one access point onto collector or arterial streets should be considered for larger or higher density projects (may include limited, emergency access points);
- The subdivision of lots without public road frontage should be strongly discouraged;
- Adequate access for emergency vehicles is essential, and turnarounds for maintenance vehicles and school buses should be provided; and
- Design and construction standards should be commensurate with density.

As properties adjacent to streets with inadequate rights-of-way are developed or redeveloped, the land necessary for widening or otherwise improving the right-of-way should be secured as a condition of site plan or subdivision approval.

Transit. Transit is best rendered to well-planned, intensively used compact areas. Higher intensity development should be directed towards existing bus routes or to areas where bus service can conveniently expand. In addition, specific development proposals should be carefully evaluated at site plan or subdivision review with regard to the need for bus turn-out lanes, patron shelters, and other factors affecting bus stop location. Highway planning should specifically incorporate provisions for existing and potential transit service.

Rail. The Vermont Railway, which parallels Route 7, holds the potential not only for north-south intercity freight and passenger service, but also for direct service to the commercially zoned properties fronting on its east side. Rail siding potential for these properties should be maintained wherever feasible in the layout of proposed development. As the intensity of development increases on the lands west of the tracks, improvements to the grade crossings (Bartlett Bay Road, Holmes Road, Inn Road) will be necessary, possibly to the extent of providing grade-separated crossings.

Transportation Objectives

Objective 13. Provide a transportation network that complies with Complete Street mandates, and maximizes efficiency and safety for all types of users (pedestrians, cyclists, transit, automobiles, trucks, rail, and air).

Objective 14. Connect neighborhoods with one another via road segments and with commercial areas for local, slow speed circulation.

Objective 15. Provide a transportation network that is supportive of and integrated into the adjacent land uses and that is designed to minimize fragmentation of and adverse impacts to identified natural, cultural, scenic and other open space resources.

Objective 16. Reduce the percentage of trips taken by single-occupancy vehicles in the City.

Objective 17. Seek alternative traffic congestion relief measures before existing roadway segments are expanded.

Objective 18. Foster community discussion about exit 12B, including transportation land-use planning and suportive zoning for the area around the connection.

Transportation Strategies

Strategy 26. Plan for safe pedestrian and bike access to all schools and support efforts to encourage more children to walk or bike to school.

Strategy 27. Work with the private sector to implement transportation demand management techniques such as ride sharing programs, bus vouchers, and flexible work hours; such techniques should be explored as possible mitigation to potential negative traffic impacts resulting from new development.

Strategy 28. Implement the proposed street and intersection improvements included on the city's Official Map and/or Capital Budget and Program either as a public project or by private developers as warranted by the scope of new development, and continue to require developers to make any necessary improvements to intersection geometry and signalization as a condition of approval.

Strategy 29. Implement access management techniques when planning new roads or improving existing roads. Require the provision of access management techniques (e.g. limit curb cuts, service roads, etc.) along high volume arterial and collector roadways as a condition of approval for new development and redevelopment.

Strategy 30. Work with the Chittenden County Regional Planning Commission and Vermont Agency of Transportation to establish Transportation Improvement Districts (TIDs) in areas anticipated for development and transportation need.

Strategy 31. Work with the Chittenden County Regional Planning Commission to complete transportation network analyses and network studies for areas anticipate for development and transportation need, including examination of an I-89 Interstate interchange at Hinesburg Road or other location.

Strategy 32. Work with neighboring communities and transportation partners on cooperative strategies for managing the impacts of travel to and from South Burlington, including park and rides and capture lots, along with appropriate public transit serving them.

Strategy 33. Develop a city-wide sidewalk and recreation path plan that identifies and prioritizes gaps, to link various neighborhood and community focal points.

Strategy 34. Support enhanced rail service on the Vermont Railway and Central Vermont Railway tracks and amend the city's Land Development Regulations to provide opportunities and mitigate against impacts of rail connections in the community.

Strategy 35. Prioritize transportation planning efforts to provide safe and efficient access to the Burlington International Airport in a manner that does not adversely affect adjacent neighborhoods.

Strategy 36. Improve traffic flow through the city by synchronizing traffic lights and adjusting traffic light timing based on time of day and traffic volume while retaining balance with pedestrian needs.

Strategy 37. Maintain at least one mile of public shared-use path per one thousand population.

Strategy 38. Seek opportunities to install a park and ride lot along the Shelburne Road corridor.

Summary of Proposed Transportation Improvements

1. Dorset Street / Market Street Intersection Improvements

Summary	Per the City Center plans, Market Street would be widened to add a left-turn lane as it approaches Dorset Street.
Purpose	This is proposed in order to ensure safe and efficient traffic movement on Market Street.
Potential Impacts	Would widen the paved surface of Market Street to three lanes. This should not pose a significant challenge to pedestrian traffic. A small amount of undeveloped land will need to be acquired from the Blue Mall property.
Completed Studies	Market Street Improvements Environmental Assessment (2010)

2. Williston Road / Hinesburg Road Intersection Improvements

Summary	This intersection would be improved to provide greater traffic movement in various directions related to future City Center traffic flows.
Purpose	This is proposed in order to ensure safe and efficient traffic movement on Market Street.
Potential Impacts	This intersection presently functions as one of few signaled pedestrian crossings of Williston Road. Any improvements to this intersection will need to be balanced with pedestrian needs and scale.
Completed Studies	Market Street Improvements Environmental Assessment (2010)

3. City Center Road Network

Summary	This project would include a reconstruction of Market Street as a two-lane road, with on-street parking, sidewalks and utilities. Bicycles are envisioned to share the street as it approaches the core of City Center. Market Street would be crossed by two new roads: one connecting Midas Drive to Healthy Living, and a second (later phase) to connect San Remo Drive to a re-aligned Mary Street.
Purpose	To provide safe and efficient access from Hinesburg Road to Dorset Street, and to create a downtown-style network of roadways in conjunction with City Center
Potential Impacts	Market Street is already in existence. The impacts of the road network are fully assessed in the Market Street Environmental Assessment.
Completed Studies	Market Street Improvements Environmental Assessment (2010)

4. City Center Parking Garage

Summary	One or more parking garages to serve the City Center area, as envisioned in the Conceptual Master Plan.
Purpose	In order to foster a downtown-style of development, it will be necessary for parking to be provided in a format other than traditional surface parking. The conceptual master plan considers two 990 space garages on site at full build-out.
Potential Impacts	Cost and use of land for parking are two important considerations. In addition, one of the garages is depicted on the location of an existing elementary school. Some options and alternatives exist to mitigate some of the need for on-site structured parking, including potential participation in a Transportation Management Association and/or nearby off-site option.
Completed Studies	Market Street Improvements Environmental Assessment (2010)

5. Airport Drive Extension

Summary	A new connector road to link Airport Drive directly to Airport parkway. This proposal has been included in several Comprehensive Plans of the city.
Purpose	To provide a more direct connection for travelers between Route 15 and Williston Road / the Burlington International Airport. At present, all traffic must use White Street, a predominantly residential street.
Potential Impacts	This new road would relieve traffic from White Street and other local streets. Care will need to be taken to ensure traffic does not increase on Kirby Road.
Additional Info	The design of this new roadway is under review as the Burlington International Airport undertakes its noise mitigation and re-use plan. Final designs of the roadway will need to consider both impacts on the adjacent neighborhood as well as efficient use of limited land adjacent to the Airport.
Completed Studies	Airport Drive / Airport Parkway Improvements Scoping Study (2005)

6. Exit 12B Interchange

Summary	Construction of a new interchange in the vicinity of Hinesburg Road / I-89.
Purpose	To provide relief from the existing local road network east of Exit 14, to serve anticipated growth in enplanements at the Burlington International Airport, to serve business development in the eastern portion of the city, to relieve congestion from Exists 14 and 12, and to serve the future City Center.
Potential Impacts	This interchange would have a substantial impact on general traffic flows in the area (increasing in some areas, decreasing in others). It will also likely support business development in the area on areas that are presently partially developed. A full Environmental Impact Statement – including an alternatives analysis - will be required before a interchange is constructed.
Completed Studies	Interstate Access Analysis (2010) I-89 Exit 12B Financing Options Study (2009) I-89 Exit 12B Alignment Study (2009) I-89 Urban Transportation Improvements (2003) Ground Access Study of the Burlington International Airport (2002) I-89 Exit 13 Access Improvements (1999) Chittenden County 1-89 Corridor Study (1997) I-89 / Hinesburg Road Northbound Off-Ramp (1996) Interchange Feasibility Studies at Four Locations in the CCMPO Area (1987)

7. Swift Street Extension to Hinesburg Road

Summary	A new connector road to link Swift Street Extension to Hinesburg Road. This connector has been listed in several Comprehensive Plans of the city.

Purpose	To provide a safe second access and egress for residents of the Village at Dorset Park; to provide greater east-west connectivity for city residents; to provide better emergency vehicle access for the city.
Potential Impacts	This new connector road could increase traffic on Swift Street and create an additional crossing challenge for wildlife. Care will need to be taken to develop a road connection that meets the stated purposes while protecting neighborhood character and limiting impact on wildlife.
Completed Studies	Dorset Street Corridor Plan (2007) South Burlington Planned East-West Roads Analysis (2001)

8. Exit 14 Ramp Improvements

Summary	Complete improvements to northbound on and off-ramps.
Purpose	To improve traffic flow to and from Exit 14.
Potential Impacts	The additional capacity will need to be evaluated for its impact on adjacent intersections and the local road network, as well as for pedestrian and bicycle safety.

9. White Street / Midas Drive Intersection Improvements

Summary	Create a proper four-way intersection at this important link between Williston Road, City Center and the Chamberlain neighborhood. The project would involve acquisition of the property presently occupied by Accent Travel.
Purpose	To improve pedestrian and vehicular safety and flow at this important intersection, and to provide a safe entrance to the future City Center road network.
Potential Impacts	The project will involve acquisition of a privately-held property. In addition, care will need to be taken to ensure that pedestrian needs are met at this site.
Completed Studies	Market Street Improvements Environmental Assessment (2010) US 2 Corridor Transportation Management Plan (2007)

10. Spear Street / Swift Street Intersection Improvements

Summary	Complete improvements to the Swift-Spear intersection.
Purpose	To improve pedestrian and vehicular safety at this intersection.
Potential Impacts	Some re-alignment of this offset intersection would be needed. Possible acquisition of private land may be needed for some alternatives.
Completed Studies	Spear Street Corridor Study (2004)

11. Airport Parkway / Lime Kiln Road Intersection Improvements

Summary	Complete improvements to the Airport Parkway / Lime Kiln Road / Shamrock Road / Ethan Allen Drive intersection.
Purpose	To improve pedestrian and vehicular safety at this intersection.
Potential Impacts	Some re-alignment of this offset intersection would be needed. Possible acquisition of private land may be needed for some alternatives.
Completed Studies	Road Safety Audit Review ~ Airport Parkway/Lime Kiln Intersection (2006)

12. Vale Drive Extension

Summary	Extend Vale Drive to Swift Street commensurate with future development.
Purpose	To provide a neighborhood-scale street network to serve existing and future development.
Potential Impacts	Care will need to be taken to minimize impacts on wetlands in the area, and to ensure that this road does not become a short cut for automobiles travelling on Spear Street and/or Nowland Farm Road.

13. Fayette Drive Extension

Summary	Extend Fayette Drive from Queen City Park Road to Bartlett Bay Road.
Purpose	To provide a secondary route parallel to US Route 7, service local businesses and homes, and providing a more pedestrian and bicycle-friendly environment for travel.
Potential Impacts	Care will need to be taken in the design of the road system to limit its use as a short cut for Shelburne Road, though some of its purpose is to remove traffic that uses Shelburne Road for short distances.

14. Tilley Drive Extension

Summary	Extend Tilley Drive to Community Drive.
Purpose	To provide a connection between Hinesburg Road and Community Drive / Kimball Ave. This road would avoid residential areas and provide much more direct access for travelers between those two locations. It would also serve a future Exit 12B. A recreation path connection was completed along the same connection in 2009.
Potential Impacts	The proposed crossing area contains wetlands and potential archeological resources. In addition, signals may be needed at the intersections of Tilley Drive / Hinesburg Road and Community Drive / Kimball Avenue.

15. Generation Drive

Summary	A new road that would connect Tilley Drive to Kimball Avenue.
Purpose	To provide a connection between Hinesburg Road and Kimball Ave. This road would avoid residential areas and provide much more direct access for travelers between those two locations. It would also serve a future Exit 12B. It would also provide opportunities for development along this new road.
Potential Impacts	Signals may be needed at the intersections of Tilley Drive / Hinesburg Road and Community Drive / Kimball Avenue.

16. North Jefferson Road Extension

Summary	Extend North Jefferson Street to Nowland Farm Road alongside future development.
Purpose	To provide a neighborhood-scale street network to serve existing and future development.
Potential Impacts	Care will need to be taken to minimize impacts on wetlands in the area, and to ensure that this road does not become a short cut for automobiles travelling on Spear Street and/or Nowland Farm Road.

17. Executive Drive Extension

Summary	Create a new roadway parallel to Williston Road between White Street and the Windjammer property.

Purpose	To provide a secondary access to the mixed use development along the north side of Williston Road, provide greater pedestrian and vehicular access for local residents, reducing congestion along Williston Road, and potentially providing additional development opportunity.
Potential Impacts	The development of this road should be done in conjunction with improvements to Williston Road such as eliminating curb cuts and improving pedestrian crossings.

18. Sadie Lane Extension

Summary	Create a new road parallel to Dorset Street south of Cider Mill Road.
Purpose	To provide a neighborhood-scale street network to serve existing and future development.
Potential Impacts	Care will need to be taken to minimize impacts on wetlands in the area, and to ensure that this road is compatible with existing development in the area.

19. US 2 Corridor Improvements

Summary	Implement a series of recommended improvements to US 2 (Williston Road) throughout the city of South Burlington, including transit serving, intersection improvements, turning lanes, sidewalk enhancements, cyclist safety opportunities, signalization adjustments, and access management.
Purpose	To enhance the carrying capacity for all users along Williston Road.
Potential Impacts	The scale of the potential improvements vary and will need to be evaluated on a case-by-case basis.
Completed Studies	US 2 Corridor Transportation Management Plan (2007)

20. New City Park/ Eldridge Street Connector

Summary	Acquire land for a new city park and create a road connection between Eldridge Street and Old Farm Road.
Purpose	The new road would serve to create a link between the historic Old Farm Road and new neighborhoods to the southwest. In addition, the potential closure of Old Farm Road at its southern end would create a need for a secondary outlet.
Potential Impacts	Steep slopes will need to be mitigated for in the construction of this road. No road is likely needed until and unless additional development takes place along Old Farm Road.

21. Old Cross Road Extension from Dorset Street to Hinesburg Road

Summary	Reserve land for a possible future street connection. No plan for immediate construction.
Purpose	To reserve land for the possible connection from the end of Old Cross Road to Hinesburg Road.

22. Connection from IDX Drive to Deerfield Drive

Summary	Reserve land for a possible future street connection. No plan for immediate construction.
Purpose	To reserve land for the possible connection from the end of IDX Drive to Deerfield Drive. This reservation is not intended to be a recommendation for the reduction or removal of the UVM Horticultural Farm.

B. Public Utilities

The quality and location of public utilities quite often determine the intensity and location of future development. The high costs of installing and maintaining public utilities warrant careful advance planning. The benefits and cost of public utilities are, in many cases, not reasonably or logically related to municipal boundary lines. Numerous areas of overlapping and/or conflicting jurisdictional authority exist. Regionalization may be the most cost-effective method of providing such services.

Overview

Key issues and needs related to public utilities in the city include:

- Solid waste management and recycling remain an ongoing challenge – and opportunity – for the community.
- Telecommunications infrastructure will continue to evolve and provide new economic development opportunities in the community.

Inventory

Solid Waste. South Burlington is a member of the Chittenden County Solid Waste District (CSWD). CSWD is comprised of 18 member municipalities and was formed in 1987 to collectively provide for the efficient, economical, and environmentally sound management of solid waste generated within its member municipalities. In addition to its charter, CSWD has adopted a Waste Management Ordinance, Solid Waste Management Fee Ordinance, and Regulations for the Collection and Recycling of Solid Waste in the Chittenden Solid Waste District. These four articles comprise the district's governing documents. Recycling is mandatory within the district.

The passage of Vermont's Act 78 in 1987, as well as federal regulations developed by the Environmental Protection Agency, required the closing of unlined landfills. CSWD opened the first publicly-owned, regional, double-lined landfill in the state in 1992 in Williston. This landfill was an interim, short-term landfill intended to bridge the gap between the existing unlined landfills used by many members and the planned long-term regional lined landfill. South Burlington closed its municipally-owned, unlined landfill closed within two months of the opening of CSWD's interim regional landfill. The interim landfill reached capacity and closed in August 1995. Since the closing of the interim landfill, solid waste destined for disposal has either been delivered to one of two transfer stations operating within the district or directly hauled to lined landfills located outside of the district.

The siting of a long-term regional landfill has been a priority of CSWD since 1989. It is widely recognized that a local, publicly-owned, long-term disposal option is an essential component of the district's comprehensive solid waste management system. CSWD identified a site located on Redmond Road in Williston for its proposed regional landfill as a result of a siting process that utilized extensive public participation.

In 1992, after numerous unsuccessful attempts to negotiate a purchase of the selected site, CSWD formally initiated eminent domain procedures to acquire the site and became the property owner in 2009. A 2012 Post-Closure Landfill permit has been issued and the city is operating under its terms.

CSWD currently operates a drop-off center at the city's former landfill site on Patchen Road. The drop-off center accepts solid waste, recyclables and special wastes such as tires, scrap metal, leaves and brush. Curbside pick-up of trash and recyclables is available from private haulers.

Telecommunications. South Burlington residents and businesses have access to the telecommunications services (land line telephone, cell phone, cable television, and broadband internet) from various providers. Affordable and convenient access to state-of-the-art telecommunications services is an important component of the city's quality of life, economic development strategy and educational opportunities.

Natural Gas. Vermont Gas Systems, Inc. (VGS) supplies natural gas to the city. The natural gas is imported from Canada via the TransCanada Pipeline, entering Vermont Gas Systems' main pipeline at the border in Highgate. The company has a network of more than 650 miles of underground transmission and distribution lines in its Vermont service area. Natural gas has been the primary home heating fuel for new development since natural gas became available in South Burlington in the 1960s.

Electricity. Green Mountain Power Company supplies electrical power to South Burlington through a network of transmission lines, substations and distribution lines. It has two 34.5 kV sub-transmission corridors in the city as shown in Figure *.

Vermont Electric Power (VELCO) has a 115 kV transmission line that extends south along the railroad tracks from Burlington to Shelburne, then turns east to head toward Williston. VELCO's Queen City substation is also located in South Burlington off Central Avenue.

Analysis and Challenges

Telecommunications. Private utilities that provide telecommunications services should offer state-of-the-art technologies. Given the rate of change in the telecommunications sector, this will require continuous upgrades to telecommunications infrastructure. As with infrastructure for other basic services, telecommunications lines, antennas and towers have become part of the city's built environment. The siting of telecommunications infrastructure should consider issues of aesthetics, safety and efficiency. The use of existing structures, sites and utility corridors is preferred over new development.

Natural Gas. Better coordination between the city and VGS may be achieved by exchanging future construction plans. Through improved communications, construction projects may be implemented at lower costs, with less earth disturbance, and fewer disruptions. In addition, the review of new private development projects should include the effects of any necessary gas main extensions.

Electricity. It has been recognized for a number of years that demand is growing and increased electric system reliability is required in the greater Burlington metropolitan area. The utilities have been taking action to address the reliability and supply issues. Two recent transmission line projects upgraded the infrastructure serving Chittenden County located South Burlington.

- The Northwest Reliability Project included the replacement of approximately 27 miles of 34.5 kV electric lines between New Haven and South Burlington with a new 115 kV line. In addition, a number of substations were upgraded, including the Queen City substation.
- The East Avenue Loop and supporting projects included various upgrades in South Burlington. A 34.5 kilovolt (kV) sub-transmission line was installed from the McNeil generating plant to the VELCO substation at East Avenue, near Centennial Field. Between the "Essex" substation in northern Williston and the East Avenue substation in Burlington, two 115 kV transmission lines on single poles replaced a single line located on double poles.

Future Needs and Trends

Solid waste management is and will remain a challenging issue for all communities. As technologies improve, opportunities for increased diversion of "trash" from the waste stream will become economically viable. CSWD presently offers free recycling of most plastics, paper, glass, and metals. Drop-off composting is also provided free of charge. It is expected that in the coming years, compost will become a viable source of electricity generation in the form of biomass digestion, as will increased compost development.

Future trends related to gas and electricity are closely tied to energy needs and supply in the city and elsewhere. See the Energy component of the Plan under Grey Infrastructure for details.

C. Energy

Energy is a major factor in the cost of living and the cost of doing business in the city of South Burlington. Our energy use practices require substantial imports of energy, which expose us to significant economic and geopolitical risks. Further, the cost of imported energy could more appropriately be invested in the local and US economy. Our heavy reliance on fossil based fuels and the CO_2 it creates are contributing to global climate change. All of these reasons make it important to look for ways to conserve energy and to support local sources of renewable energy.

At the municipal level there are many actions that can be taken: effective land use planning and regulation, building codes, programs to promote conservation and efficiency and improved transportation systems can further efforts to create clean, reliable, economical and energy efficient systems. In addition, by working with larger government bodies additional progress can be made on transportation issues.

Overview

Key issues and needs related to energy identified in this plan include:

- Transportation is the leading source of energy consumption in South Burlington, followed by commercial and residential sector fuels and electricity.
- In 2008, the City Council signed on a challenge with the Environmental Protection Agency (EPA) to reduce municipal energy consumption by 10 percent.

Inventory

Energy Use. In 2008, South Burlington residents formed a new volunteer energy committee to address energy consumption and production in the community. The formation of this committee came shortly after the City Council signed on to the Environmental Protection Agency's 10% Municipal Energy Challenge. In 2009, South Burlington completed a greenhouse gas emissions inventory for the entire city. This study identified the largest uses of energy and sources of CO_2 in the city. The major categories of use are here ordered from highest to lowest:

- Transportation
- Commercial Electrical Usage and Heating
- Residential Heating & Electrical Usage
- Municipal

Transportation includes two components: the amount of miles travelled and the efficiency of the vehicles. Both of these are difficult for a single city alone to change. However by working together with larger government bodies progress can be made.

Collectively, the heating and electrical use of residences and commercial buildings is very significant. The design and construction of buildings strongly influences the amount of energy needed for heating and cooling, as well as the amount of electricity needed for lighting. Simple site planning such as locating buildings to maximize southern exposures and providing windbreaks can reduce the amount energy required to light, heat and cool structures. The design and location of commercial development and housing subdivisions, orientation of buildings, construction methods, placement and type of windows, and type and location of landscaping can have a significant impact on energy use.

Energy Use by City Government. The city's primary energy use consists of electricity, natural gas and motor fuel. The city's largest energy expenditure is for operation of the sewage treatment facilities. In the spring of 2010, the city completed energy audits of each of its municipal buildings. This information is being used to target investments in renovations to provide energy and dollar savings.

Energy Conservation and Efficiency. While South Burlington will continue to be a transportation hub due to its role as part of Vermont's largest metropolitan area and the presence of major highway and interstate corridors, work should continue to provide alternatives to single-occupancy commuter traffic. In addition, much can be done to reduce locally-generated traffic volumes and residents' reliance on personal automobiles.

Energy Supply. Transportation in the city is primarily fueled by gasoline and diesel from hundreds of independent dealers and suppliers. Natural gas provides the majority of heating energy and it is provided by Vermont Gas Systems (VGS). Heating oil is the next largest, although a much smaller, source of heating energy and is supplied by many independent suppliers. Electricity throughout the city is supplied by Green Mountain Power (GMP).

Both GMP and VGS indicate that they have sufficient capacity to adequately serve growth in the city over the life of this plan, although some areas of the city are being geographically targeted for electrical load reductions due to limited distribution capacity. Both companies offer energy conservation programs and incentives to both businesses and residences.

There are no conventional power plants located in South Burlington. In 2010, however, several applications for small-and mid-sized solar power generation were submitted to the Vermont Public Service Board for review and approval. Following this, in 2011 the largest solar array in Vermont opened in the city, with an estimated output nearing two megawatts annually

Small-scale wind energy in South Burlington is limited by the high density of development and unfavorable climatic conditions. Solar energy generation provides greater opportunities for a renewable, alternative power source for city residents and businesses.

Analysis and Challenges

Energy Use. It is now widely recognized that human-caused emissions of greenhouse gases, largely a direct result of energy consumption, are having a measurable impact on the earth's climate. Increases in global temperatures are believed to already be causing measurable changes in the frequency and intensity of extreme weather events, rising sea levels, and a northward expansion in the range of tropical diseases and pests. These and other results of climate change have the potential to pose local and worldwide economic and environmental threats.

There are also significant economic effects on the national, state and local economies due to our heavy reliance on fossil fuels. The billions per year spent on oil imports nationwide, if invested in the US and local economies, could have significant positive effects. As the climate and economic effects of our energy use are becoming more apparent, local initiatives are beginning to tackle these issues

Vermont has a Residential Building Energy Code that sets a minimum standard of efficiency for new homes and residential additions over 500 square feet and Commercial Building Energy Standards (CBES) for all commercial buildings and residential buildings of four or more stories. The city could require all new construction to be more energy efficient through adoption of local building codes. South Burlington's land use regulations could mandate or offer incentives for increased energy efficiency.

While efforts to improve new construction are very important, it is even more important to address the existing built environment. While we may add two percent of new space through growth each year, 98 percent of the building stock the following year will be preexisting structures. Programs that specifically target efficiency improvements in existing commercial and residential structures must be put in place. Energy savings can be realized by retrofitting existing buildings with insulation and air sealing, more efficient doors and windows, more efficient lights, more efficient mechanical systems and more efficient appliances.

Efficiency Vermont has programs and resources to help customers reduce their monthly electric bills, including information about rebates and tax incentives available for energy-saving purchases. Income-eligible households in can participate in the Weatherization Assistance Program, as well as the Fuel Assistance Program, offered by the Champlain Valley Office of Economic Opportunity. Vermont Gas Systems also sponsors efficiency programs to assist their customers with energy conservation.

South Burlington can also promote reduced transportation energy use through the development of alternative transportation modes and through appropriate land use planning. For example, the city is attempting to become a more pedestrian-oriented city. The development of foot and bicycle paths, greenways and other trails provide alternative ways of accessing the city's commercial, residential and recreation areas. With the development of City Center, the city is taking steps to make transit use easier. The City Center, with its mix of commercial and residential uses, will also promote walking and therefore reduce reliance on personal automobiles.

Future Needs and Trends

South Burlington is a very desirable place to live and to grow a business and it is expected that growth will continue at its historical pace as discussed in the Social Infrastructure chapter of this plan. The city needs policies to accommodate this growth while maintaining and improving the quality of life for its residents and improving the business climate while working hard to reduce energy related costs and impacts to the environment.

Many of the topics discussed above and the detailed strategies in the next section directly address the cost of living and of doing business. More efficient buildings translate to lower annual operating costs. Our efforts to improve transportation options can reduce people cost of transportation as well as offering healthy alternatives to automobiles. Local renewable energy can provide owners will provide clean energy at predictable costs for decades to come.

Energy Objectives

Objective 19. Achieve a reduction of 20% in carbon dioxide-equivalent emissions from 2009 levels by 2020 through an increase in renewable energy production and reductions in energy use in the following sectors: transportation, commercial/industrial, residential, municipal/school.

Objective 20. Facilitate and encourage community-based renewable energy production in locations that do not contradict or interfere with the city's open space and resource conservation objectives, specifically as identified in Section 3.2D of this plan.

Energy Strategies

Strategy 39. Work with electric utilities and other partners to establish the electric transmission, distribution, and charging infrastructure to support increased use of electric vehicles at home, work, park-and-ride locations, and downtown parking.

Strategy 40. Develop incentives for existing and new buildings to meet or exceed state energy building code, Energy Star, Leadership in Energy and Environmental Design (LEED) standards.

Strategy 41. Explore the creation of a clean energy assessment district to facilitate residential and commercial financing of clean energy improvements.

Strategy 42. Promote energy efficiency through well-designed buildings, siting and landscaping, and encourage increased demand side management programs and the use of site-specific renewable energy resources.

Strategy 43. New buildings should be built to exceed existing state energy standards.

Strategy 44. Consider energy efficiency when making upgrades to city utilities and infrastructure such as water and sewage treatment, street and parking area lighting, and traffic signals so that the more efficient solution is chosen if it is projected to pay back or break even over the lifetime of said investment.

Strategy 45. Continually evaluate the minimum levels of street lighting needed for pedestrian and vehicular safety and security, in the context of energy savings and reduction of light pollution.

Strategy 46. Consider fuel efficiency when upgrading fleet vehicles for the city and school system and maintain vehicles at peak fuel efficiency.

Strategy 47. Encourage owners and developers to explore the possibility, and feasibility, of cogeneration and/or district energy in higher-density areas, notably City Center.

Strategy 48. Encourage installations of photovoltaic electric and solar hot water heating for residential and commercial buildings, and the development of medium-scale photovoltaic electric generating facilities within the city.

Strategy 49. Seek opportunities to develop photovoltaic electric production on city and school grounds and building rooftops, where not in conflict with other goals of this plan.

Strategy 50. Explore the implementation and enforcement of a policy that would eliminate the idling of occupied and unoccupied vehicles.

D. Resource Extraction

The extraction of resources has historical significance in South Burlington, with several quarries having operated in the community through the 20th Century. Agricultural activities long dominated the landscape, with forestry playing a more minor role. At least one of the city's quarries, located near I-89 towards the Williston town line, owes its originas to the contruction of the Interstate.

Overview

Key issues and needs related to resource extraction include:

- Sustainable resource extraction in the context of the development and natural resource and conservation goals of the city.

Inventory

Mineral Extraction. South Burlington is currently home to two quarries:

- An operating quarry immediately south of I-89, near the Meadowlands Business Park. Its only access is through the Town of Williston and so both communties are working cooperatively on its continued use. This quarry submitted an application for continued and expanded use in 2015.
- A quarry at the south end of the airport. This quarry is not presently active.
- Other former quarries in the city are no longer active and have been closed.

Forestry. South Burlington has limited blocks of contiguous forests. Due to this, combined with the land value and development patterns in the city, active commercial forestry is generally not economically viable and has been extremely limited. The City has, however, for the past several years, collaborated with the University of Vermont to tap several sugar maple trees in the city-owned Wheeler Nature Park. Pursant to VSA 24 Chapter 117, accepted silviculture practices are exempt from local zoning.

Analysis and Challenges

Mineral Extraction. Given the city's development and conservation patterns, quarrying operations require careful management as existing quarries are relatively close to the interstate, developed areas and natural resource conservation areas. Access to the quarry nearest I-89 is appropriate as the city's road network is not designed for such operations.

Future Needs and Trends

While limited amounts of resource extraction are expected to continue, it is not expected that new quarries or large scale forestry operations will be estabilished in the city.

2.4. Blue Infrastructure

Water flows throughout the City of South Burlington, creating a "blue" network throughout the community. Similar to the network of roads and utility lines that make up the city's "grey" infrastructure, the natural and constructed "blue" elements provide a network that sustains human and wildlife populations.

The city's blue infrastructure includes brooks and ponds, drainage ways, stormwater facilities, groundwater resources, potable water pipes and facilities, and wastewater treatment pipes and facilities. The natural and constructed elements of this system are interdependent and linked to the city's two major water resources - Lake Champlain and the Winooski River. Effective management and planning for this blue infrastructure can maintain and augment the health of the city's watersheds while accommodating development and change in the built environment.

A. Surface and Ground Water Resources

Overview

Key issues and needs related to the city's surface and ground water resources identified in this plan include:

- Protection of water source protection areas.
- Conservation of highly functional wetland areas.
- Rehabilitation of impaired waterways in South Burlington.

Inventory

Watersheds. A watershed is the region from which a river or water body receives its supply of water. This generally includes the system of streams, tributaries and wetlands that feed into the body of water. Seven main watersheds exist within the City of South Burlington. The flows from all of the surface and ground water systems in the city eventually reach Lake Champlain.

1. **Potash Brook Watershed.** The largest of the city's watersheds, Potash Brook, covers 43 percent (7.1 square miles) of South Burlington and is the largest drainage area in the city. The Potash Brook has its source within the city limits and flows southwesterly into Lake Champlain. Much of the developed area in South Burlington drains to Potash Brook and eventually Lake Champlain. Along its primary reach, which follows Kennedy Drive and I-189, significant natural buffer areas have been established. Many of the brook's tributaries, however, are located immediately adjacent to developed areas, leading the brook's classification as "stormwater-impaired" by the State of Vermont

Department of Environmental Conservation. The main reach of the brook is paralleled by a pedestrian trail system for much of length.

2. **Muddy Brook Watershed.** The Muddy Brook flows northward to the Winooski River for approximately 5.7 miles from its headwaters at Shelburne Pond and forms the city's eastern boundary with Williston. The larger watershed also incorporates a series of smaller tributaries that drain into the Pond, some of which have their headwaters in South Burlington. Muddy Brook is listed as an impaired watershed due to elevated levels of toxics, nutrients, and temperature. This is generally attributed to historic development and agricultural practices along the banks of the brook. The Winooski Valley Park District manages pedestrian trails and recreation paths along the Muddy Brook and at Muddy Brook Park at the northern delta to the brook. Further south, Burlington International Airport maintains a natural area that is open to the public and accessible from Van Sicklen Road.

3. **Bartlett Brook Watershed.** The Bartlett Brook watershed, which includes the North Brook, drains the southeastern portion of the city, including commercial, light industrial, and residential areas. It is listed as impaired due to stormwater loads. It has also been an area prone to flooding, especially in the residential neighborhood that bears its name. The city enacted a special overlay zoning district in the 1980s to begin to address the flooding issues. More recently, in 2009, the city established this area as a stormwater management overlay district, requiring all larger-scale development to model rainwater runoff and make use of low impact development techniques.

4. **Centennial Brook Watershed.** Centennial Brook is located primarily within the City of Burlington's limits, but has its headwaters in South Burlington's Chamberlain neighborhood. Large portions of Centennial Brook are located within conserved lands: the city-owned DeGraffe natural area and the UVM-owned Centennial Woods. In addition, a substantial portion of the South Burlington portion of the watershed is located on a large undeveloped parcel adjacent to I-89. Centennial Brook also drains the developed areas along Williston Road. The brook is classified as impaired due to stormwater runoff from development and impervious surfaces located beyond the buffer areas.

5. **Englesby Brook Watershed.** The Englesby Brook watershed covers a small portion of South Burlington located north of I-189 and east of Shelburne Street. Predominantly located in the city of Burlington, it is impaired due to excessive stormwater originating from both communities. The South Burlington portion includes residential and commercial properties.

6. **Winooski River Watershed.** Forming the northern border of South Burlington, the Winooski River and its watershed brings South Burlington into partnership with many other communities. The area of the city north of the Burlington International Airport drains directly into this river, and includes the Country Club Estates neighborhood, an active farm, light industry, and a mix of residential and commercial uses along Lime Kiln Road. A portion of the Ethan Allan industrial park is located immediately adjacent to the 100-year floodplain.

7. **Lake Champlain Watershed.** A small portion of the city drains its water directly into Lake Champlain. This includes Red Rocks Park, the Queen City Park neighborhood, and properties west of the railroad tracks that travel parallel to Shelburne Road. Impervious surfaces are a potential impairment problem in the Queen City Park neighborhood; otherwise, the land is relatively undeveloped and natural in this area.

Rivers and Streams. The city's primary rivers and streams include the Winooski River, Muddy Brook, Potash Brook, Bartlett and Centennial Brook. South Burlington also has a network of smaller streams that includes tributaries to Lake Champlain, as well as streams that drain to Shelburne Pond.

The Winooski River forms the northern boundary of the city. Throughout its lower reaches, it is tapped for its ability to produce electric power. Communities along the river use it to carry away treated sewage. The agricultural soils of its floodplain are still important in our regional economy. The river valley is Chittenden County's central transportation corridor. However, the lower Winooski retains much of the feeling of a natural river. Scenic vistas abound from its banks and spectacular gorges offer access to the drama of nature and to the geologic past. Two parks line the river in South Burlington: a river access point at the confluence of the Muddy Brook along National Guard Road, and an overlook and natural area adjacent to the Lime Kiln Bridge.

Lake Champlain. South Burlington has 2.3 miles of frontage along Lake Champlain, a unique scenic and recreational resource that is widely used by both residents and visitors nearly year-round. The lake is the city's potable water supply through the Champlain Water District and some private water intakes.

The lakeshore is comprised of a mix of natural parkland (Red Rocks Park), residential neighborhoods (Queen City Park and Bartlett Bay), stream outflows, and one large landholding known as Allenwood. While there are great pressures for private and public access to the lake, a combination of topography and physical constraints, historic land ownership and development patterns, and transportation corridors (particularly the presence of the rail line) have limited the accessibility and suitability of some of the shoreline for development. As a result, a significant portion of South Burlington's lake frontage remains largely undeveloped. Red Rocks park remains the only public access point to the lake, however, and there are no public boat ramps in the community.

Wetlands. Wetlands play an important role in maintaining the quality of surface and ground water in South Burlington. Class II and Class III wetlands are found throughout the community. Wetlands serve as stormwater storage and control the flow of streams, are natural filters for sediments and surface runoff contaminants, and provide habitat that supports many species of plants and animals including game fish in Lake Champlain and various waterfowl. They are typically classified by their functions and values.

Wetlands are a critical part of open space preservation and cannot be replaced once they have been disturbed. Disturbance of wetlands can include seemingly harmless practices such as mowing, the use of fertilizers, and the use of pesticides. Swamps,

bogs, and marshes are important ecological systems and resources. At every level of government, wetlands are being recognized for the values they contribute. Even small, incremental reduction of minor wetlands can cause cumulative damage to the wetlands ability to both filter pollution and mitigate storm and flooding events.

There are several large wetland systems within the city including those associated with Potash Brook, Muddy Brook and the Winooski River. There are also extensive wetland systems between Spear Street and Dorset Street and in the southeast corner of the city near Hinesburg Road (see *Map 4).

Aquifers. Groundwater, the water that filters into the ground and travels slowly through the pores of soil and cracks of rock, is a precious natural resource. Groundwater is a source of potable water for some city residents. Several homes in the Southeast Quadrant get their water from private wells. In the Queen City Park neighborhood, approximately 80 homes are connected to the Fire District #1 water supply, which is fed by a well at the end of Pavilion Avenue. This Fire District well is the only municipal groundwater supply in the city.

Contamination of groundwater can pose health issues or other water quality problems. Materials such as road salt, hydrocarbons, pesticides, and fertilizer are typical of the water-soluble toxins that can pollute aquifers. Rocks that make for good aquifers are those that allow the free flow of water and therefore any other soluble contaminants including infiltration of contaminated surface water.

Analysis and Challenges

Stream Channels and Riparian Buffers. Flowing water is a critical aspect of the city's character and environmental quality. Stream channels are naturally dynamic systems that erode and deposit sediments in predictable patterns based on the velocity and volume carried by the stream. Alterations to rivers, streams and tributaries can often have unexpected downstream effects. Upstream activities that change the erosion/deposition balance will change downstream dynamics. This includes changes in land use and the creation of additional impervious area. Uncontrolled stormwater runoff from impervious area can increase stream flows during storm events and cause stream bank erosion.

The city presently has natural buffer requirements around perennial streams and brooks. This strategy has proven somewhat effective, but does not take into account changes in stream course over time. As the city and state Agency of Natural Resources continue to develop geomorphologic assessments of the city's various stream segments, there will be opportunities to develop more advanced stream channel protection standards in the community. The city has also established Vermont's first stormwater utility. The utility manages stormwater in a cost effective way for all property owners in South Burlington and undertakes large-scale stormwater treatment and detention projects to reduce the impact that existing impervious area is having on streams.

Water Quality. Historically, water pollution has been attributed to two primary sources: point and non-point. Point sources, such as wastewater treatment facilities, have been upgraded in Vermont over the past three decades to where they are today much less of an issue than non-point sources, which can not be identified with any particular location or outfall. Non-point source pollution is difficult to control because the source of the pollution is activity that occurs throughout a watershed at homes, parking areas, roads, farms, and businesses rather than at a single point.

Non-point pollution, including stormwater runoff, plays a critical role in the quality of waterways. Agricultural runoff and pesticide use also falls into this category. The community in the past has explored the possibility of restricting pesticide use. While overall use of pesticide use is governed solely by the state, the city has enacted a restrictive policy on the use of both fertilizers and pesticides on city property.

Future Needs and Trends

Water quality issues will continue to be a challenge within South Burlington as the population grows, wildlife is encouraged to be maintained, and stricter standards for water quality are adopted at the federal, state, and local levels. Water quality in South Burlington is closely connected to stormwater management, which is further discussed in the next chapter of this plan.

B. Stormwater

Overview

Key issues and needs related to the city's management of stormwater identified in this plan include:

- Maintain the stormwater treatment and conveyance systems currently in place.
- Repair and replace aging infrastructure.
- Construct large-scale stormwater improvement projects to remove streams from the State of Vermont 303(d) list of impaired waters.
- Maintain compliance with state and federal stormwater permits and assist residents with stormwater permit compliance.

Inventory

Stormwater Runoff. The City of South Burlington contains all or a portion of five streams (Bartlett Brook, Centennial Brook, Englesby Brook, Munroe Brook and Potash Brook) impaired by stormwater runoff. Stormwater impaired watersheds cover approximately 61 percent of the city. By the late-1990s, it was widely recognized that unmanaged stormwater was causing water pollution, erosion, flooding and unstable stream banks in areas of South Burlington and throughout Chittenden County.

Stormwater runoff is generated by rainfall that does not soak into the ground. Construction of impervious surfaces (roads, rooftops, parking lots, sidewalks, etc.) increases the amount of stormwater runoff. These increased volumes of runoff will in turn increase stream flows, which results in stream bank erosion and flooding. In addition, undersized or poorly maintained public and private stormwater management systems are susceptible to failure and can exacerbate problems related to flooding and water quality..

Stormwater management is, for the most part, managed on a property-by-property basis, with the exception of systems within the roadway and certain larger development areas such as the Airport or newer residential developments.

Stormwater Utility. In 2005, the city established the first stormwater utility in Vermont with the aim of addressing these issues. The utility is an efficient way to identify and manage stormwater problems, projects, and infrastructure upgrades. The utility provides a stable and adequate source of revenue to complete required maintenance and manage stormwater related activities. The utility employs full-time staff dedicated to stormwater management and working to develop a comprehensive stormwater program and plan for needed capital improvements.

Presently, the City of South Burlington owns and maintains a stormwater system, separate from the sanitary sewer system. The stormwater system includes conveyance piping, storm drains, culverts, stormwater outfalls and stormwater treatment practices (e.g. detention ponds, constructed wetlands, hydrodynamic swirl separators, etc.). There are approximately 196 miles of pipes, ditches, culverts or other means of stormwater conveyance in South Burlington. In addition, there are over 6,300 storm drains within the city, approximately 3,200 of which are publicly owned.

City residents and businesses share the costs of, and receive services from, the stormwater utility. Some of the services provided by the stormwater utility include: evaluation, maintenance and improvement of drainage infrastructure, culvert evaluation and replacement, assists residents with state permitting, watershed planning and water quality sampling. The stormwater utility also maintains the city's compliance with the Municipal Separate Storm Sewer System (MS4) permit. The MS4 permit is a federally mandated permit administered by the Agency of Natural Resources in Vermont. The MS4 permit requires that the city implement six minimum measures related to stormwater management ranging from public education and outreach to illicit discharge detection and elimination.

In order to pay for these services, all properties in South Burlington are assessed a stormwater utility user fee. This fee appears on city sewer and water bills. Fees are calculated using a careful analysis of impervious surface area on properties throughout South Burlington. There is a set fee for single-family homes, duplexes and triplexes. All other property owners (includes condominium ownership properties, businesses, institutions, and government) are assessed a fee based on the actual amount of impervious surface on the property.

Analysis and Challenges

Stormwater is slated to be among the key challenges for South Burlington for the foreseeable future. Federal and state requirements for individual properties - aimed at system-wide improvements - have begun to be applied. In 2014, the updated federal MS4 permit was issued, giving the city 20 years to make necessary improvements to its impaired watersheds. Homeowners throughout South Burlington have worked effectively with the city to leverage federal and state grant funding to aid with these efforts and construct treatment systems that will meet present and future needs for stormwater management.

The city has been actively engaged in establishing and maintaining stormwater systems to better manage public water flows. A key strategy employed by the city in recent years has been to encourage - and in some areas require - on-site stormwater infiltration through low impact development (LID) techniques. A challenge of this, however, is that while some LID techniques support compact development (such as reduced pavement widths) others may be contradictory (such as leaving large open areas on properties).

Future Needs and Trends

It is expected that federal and state regulations will continue to apply to an increased number of smaller properties in South Burlington and throughout the country. In the short term, these standards will require substantial retrofits at significant expense. In the long term, significant effort in the area of $50M will be required to maintain infrastructure and stay in compliance with increased federal and state water quality regulations.

Water Objectives

Objective 21. Reduce the number and forms of impairments of waterways in South Burlington by 2033.

Objective 22. Protect and improve watershed, stream, and wetland system natural processes, specifically for stormwater treatment, riparian and aquatic habitat, and floodplain and river corridor protection.

Objective 23. Include mapped river corridors (fluvial erosion hazard and riparian areas) within designated open space areas intended for hazard mitigation, resource conservation and compatible forms of passive outdoor recreation.

Water Strategies

Strategy 51. Pursue opportunities for acquisition and restoration of open space along year-round streams in South Burlington and actively enforce against encroachments to protect these resources.

C. Potable Water

Overview

Key issues and needs related to the city's potable water resources identified in this plan include:

- Provision of safe water supply at reasonable costs.
- Maintenance of aging water supply system.

Inventory

Water Distribution System. The South Burlington water distribution system serves most developed land within the city boundaries. The city water department maintains almost 100 miles of distribution pipeline within South Burlington. The water distribution system is depicted on *Map 6.

The South Burlington municipal distribution system consists of two service areas:

- The Main Service area includes the west and northern parts of the city.
- The High Service area includes the southeast part of the city.

Most of the city's residents are supplied water through the distribution system, with notable exceptions being those in Queen City Park (Fire District #1), some residents along the lake front (Bartlett Bay area), and some residents in the Southeast Quadrant whose homes pre-date recent infrastructure extensions. Water distribution lines have been extended into much of the Southeast Quadrant during the past two decades as development has occurred.

Maintenance and expansion of the city's water system occurs in accordance with the South Burlington Water Department Master Plan, which specifies the location and size of future water mains. The cost of expansion is borne by those requesting it, while maintenance costs are paid for by user fees. Water supply plans for new developments are reviewed to ensure adequate flows for fire protection, and, as a result, residential and standard commercial use.

Three transmission mains (one for the Main Service area and two for the High Service area) extend from the Champlain Water District water treatment plants. The distribution piping in the City of South Burlington varies and the department continues its efforts to replace old, under-sized pipes. This is important for provision of reliable and safe drinking water, as well as for improving the quantity and pressure of water available for fire suppression. The water department also seeks to regularly upgrade related infrastructure such fire hydrants, water meters, valves, etc. as needed. Most recently, remote water meter readers have been installed.

Storage in the Main Service area is provided by the South Burlington West Tanks, a twin set of 0.5 million gallon welded steel storage tanks located to the north of Allen Road. Water storage for the High Service area occurs in a 2.1 million gallon tank

located on Dorset Street, known as the South Burlington East tank. A 2003 planning study evaluated tank sites and recommended improvements for future water storage and distribution system expansion, a number of which have since been implemented. This study is regularly assessed in relation to new development and demands on the infrastructure.

South Burlington Water Department and Champlain Water District. The city's Water Department was established in 1935 when South Burlington entered into an agreement with the City of Burlington to extend public water along Shelburne and Williston roads. As South Burlington grew, fire districts were organized to supply water to the developing neighborhoods. The districts have ceased operations and been consolidated into the South Burlington Water Department except for Fire District #1 (Queen City Park).

Since 1978, the city has contracted with the Champlain Water District (CWD) to provide management, administration and operational services for the city's water distribution system. The City Council sets the water rate for South Burlington water consumers and the Water Department bills customers for water usage, based on meter readings. Connections to the city water system are covered by municipal ordinance.

CWD, a regional water supplier serving 12 municipal water systems, provides potable water to the City of South Burlington water distribution system. CWD obtains water from a deep-water source in Lake Champlain's Shelburne Bay. A second line was recently placed into service to provide redundancy and avoid disruptions in supply. Total water usage for CWD members has declined during the past decade, due largely to conservation efforts, ensuring an adequate supply of water for the foreseeable future.

The water is treated at the Peter L. Jacob Water Treatment Plant with state-of the-art filtration, disinfection and corrosion control to provide for safe and high quality drinking water. The treatment facility, located on Queen City Park Road, has a nominal capacity of 20 million gallons per day. CWD assures the safety of the water by monitoring its sanitary quality, source quality, disinfectant-by-product quality and aesthetic quality. CWD also works hard to protect water quality in the Shelburne Bay watershed through its Watershed Management Plan for Source Protection.

Fire District #1. South Burlington Fire District #1 supplies potable water to approximately 80 households in Queen City Park. The water source is a deep rock well and the district has an independent storage tank. Fire service to the Queen City Park area is from a dedicated fire line served from the South Burlington Main Service transmission main.

Analysis and Challenges

The key challenge for services such as water supply is to ensure high quality services are maintained at reasonable costs to the users. In South Burlington, substantial portions of the infrastructure are beginning to reach replacement age, notably in the neighborhoods built from the 1940s through 1960s.

In older neighborhoods, relatively compact housing have allowed for greater efficiencies of costs than in some other potions of the city that have been developed in a less compact manner.

Expansion of the present system must be completed in a manner that does not decrease water pressure levels below minimum fire and residential standards.

Future Needs and Trends

The availability of municipal water has been a significant factor enabling housing development, particularly in the SEQ. Facilities planning for both systems has incorporated and considered both the demand for new housing and the city's conservation goals in determining how much capacity is required to serve the long-term needs in this district, as well as in helping to determine where extensions of service lines are and are not appropriate.

The water system serving the SEQ underwent a major upgrade in 2004-2005, following a successful bond vote in May, 2004. The water main on Dorset Street was upgraded and "looped" through the city right-of-way along Old Cross Road to improve storage, pressure, and fire fighting capacity. In a remarkable engineering and construction project, the Dorset Street water storage tank was raised by 35 feet to provide greater water pressure and fire protection capacity for the SEQ. Finally, a "twin" water tank was built by the existing Allen Road tank, providing improved storage, fire protection and pressure to the service area along Spear Street. This complex project received the 2004 Grand Award for Engineering Excellence from the Vermont Chapter of the American Council of Consulting Engineers, recognizing the creative work of the South Burlington Water Department and Forcier Aldrich & Associates, the project's engineers.

The one remaining water infrastructure item for the SEQ is to secure a water tank site on the high point of the AuClair farm to serve the city's 20- to 25-year pressure and storage needs. This should be added to the Official Map, and incorporated into any development plans for the AuClair farm.

The city's infrastructure management plan predicts when water supply systems will need to be upgraded or replaced. It will remain important to review these plans against future development trends to ensure the system's capacity is not overburdened.

The city's water supply ordinance has set aside 50,000 gallons per day for the future City Center project. It is estimated that upon final building, this will represent only one-quarter of the overall need.

The principal challenge for the future will be the maintenance and replacement of the water supply system.

D. Wastewater Treatment

Overview

Key issues and needs related to the city's management of wastewater identified in this plan include:

- Provision of safe wastewater treatment supply at reasonable costs.
- Maintenance of aging collection and pumping system.

Inventory

South Burlington is served by two wastewater treatment facilities: Airport Parkway and Bartlett Bay. The service areas for each of the city's wastewater treatment facilities are presented on *Map 7.

Airport Parkway, the city's largest treatment facility, serves approximately 75 percent of South Burlington households and businesses. The Airport Parkway plant discharges to the Winooski River. The Airport Parkway plant was upgraded in 2012, increasing capacity from 2.3 to 3.3 million gallons per day. As part of this project, the treatment process was upgraded to maintain or reduce the amount of pollutants discharged while accommodating increased flows. Approval for this upgrade at the state level included a determination that the city's City Center, SEQ, and other land use plans were consistent with state wastewater and growth policies.

While owned by South Burlington, the city has an inter-municipal agreement that allocates 1.0 million gallons per day of treatment capacity (of the 3.3 million gallons per day total that will exist upon completion of the current upgrade project) to entities within the Town of Colchester. Currently, the facility has actual flows of approximately 2.0 million gallons per day. It is anticipated that these upgrades will meet with needs for City Center and other development in the community for the foreseeable future.

The wastewater facility at Bartlett Bay presently serves about 25 percent of South Burlington households businesses as well as the Magic Hat Brewing Company. This facility was last upgraded in 1999 and has a permitted capacity of 1.25 million gallons per day. Flows at Bartlett Bay are approximately 1.0 million gallons per day. The City is presently evaluating the diversion of the Eastwoods Area sewer system connected to the City of Burlington treatment plant, to the Bartlett Bay facility.

The wastewater collection system in South Burlington is comprised of a mix of public and private pump stations that feed a network of public pipes.

Future sewer main construction will be primarily by private developers. Future main extensions can be allowed beyond the basic service areas only if appropriate improvements to the existing network are made. A key element of these future upgrades will be improving connectivity in the vicinity of Dorset Park, Oak Creek Village, and Butler Farms.

A small number of city homeowners rely on soil-based septic systems to treat wastewater. Less than five percent of city residents have on-site septic disposal systems, a majority of which are located in the Southeast Quadrant and pre-date recent extensions of infrastructure to this part of the city.

Analysis and Challenges

At various times, the city has been in a position of significant scarcity at one of its wastewater treatments plants. In the late-1990s, new allocations to the Bartlett Bay facility were only able to be granted upon close scrutiny of flows. The Airport Parkway facility is nearing this point as well, but this issue should be resolved for the foreseeable future once the upgrades are complete.

The city's water supply and wastewater ordinance has set aside 150,000 gallons per day for the City Center area. This is anticipated to meet a substantial portion of the need for the forseeable future growth without unreasonably over-committing to one geographic area within the city's core areas. The recent upgrade to the facility was critical in the city's receipt of a New Town Center designation from the Vermont Downtown Board in 2010 and played an equally important role in the designation of Severance Corners in Colchester as a Growth Center in 2009.

External factors play an increasingly significant role in planning for future sewage disposal. Discharge of treated effluent from the Bartlett Bay plant into Lake Champlain and into the Winooski River from the Airport Parkway plant is governed by state discharge permits and the Lake Champlain TMDL (total maximum daily load) for phosphorus. Assignment of a water quality designation by the state limits the quantity and quality of the effluent the city may discharge.

Shelburne Bay, which assimilates waste from the Bartlett Bay treatment plant (and Town of Shelburne), is the raw water source for the Champlain Water District. The Winooski River is relied upon by abutting communities for sewage plant outfall. Because of state-imposed water quality standards for the Winooski River, it has become apparent the assimilative capacity of the river is limited. However, this limit may be exceeded by the demands of the communities bordering it. The city must continue to actively and diligently participate in the waste-load allocation plan for the lower Winooski River.

The system of private and public pump stations and feeder lines presents challenges for system maintenance at times. The city has encouraged development to use public standards for construction.

Future Needs and Trends

As with all public infrastructure, the need to maintain facilities at a reasonable cost is paramount. With the completion of the Airport Parkway Treatment Plant upgrade, capacity needs in the city should be met for the next decade and beyond. The Bartlett Bay facility will have need for equipment upgrades in the near future however, and

presents an opportunity for the city to gain substantial energy savings with the use of the newer technologies being employed at Airport Parkway and elsewhere.

The city's capital budget and plan can estimate time frames for renovations and needed line and pump station upgrades. A capital plan that is reviewed regularly can also project time frames for future capacity needs and establish a financial mechanism in advance.

The he city has recognized that there are certain planned conservation areas where the installation of sewer lines is not an appropriate investment. Sewer lines are not recommended for extension in or through any of the Primary Natural Communities identified in the Arrowwood Assessment, in "The Bowl" area identified for future conservation. The limited number of housing units and low densities planned for this area can be served by on-site septic systems if development occurs.

The Public Utilities Map shows specific pump stations and force mains that should be upgraded in order to provide better service to existing and planned development areas in the SEQ. These improvements and upgrades, which have been incorporated into the facilities plan for upgrading the Airport Parkway Wastewater Treatment Facility, are consistent with the planning principles and goals for the SEQ and should be completed.

Wastewater Objectives

Objective 24. Maintain a wastewater allocation system that reflects the land use goals of the Comprehensive Plan.

Wastewater Strategies

Strategy 52. Plan for infrastructure such that its location will limit disturbance within identified primary and secondary natural areas throughout the city to the greatest extent possible.

Strategy 53. Secure a water tank site on the high point of the AuClair farm to serve the city's 20- to 25-year pressure and storage needs. This should be added to the Official Map, and incorporated into any development plans for the AuClair farm.

2.5. Green Infrastructure

The City of South Burlington's open spaces, parks, natural systems and cultural resources combine to create a "green" network throughout the community. Similar to the network of roads and utilities that make up the city's "grey" infrastructure, and the rivers, wetlands, and water systems that make up the city's "blue" infrastructure, these "green" elements provide a network that identifies and preserves the significant ecological, wildlife and cultural resources that contribute to the character of the city.

From public parks and wildlife habitats to farmland and historic buildings, the natural and cultural resources that make up the city's green infrastructure play an important role in the future development of the community. Through green infrastructure planning, priority resource areas can be identified and linked to create recreational and open space systems as well as valuable corridors for wildlife.

A. Ecological Resources

The ecological resources of South Burlington are widely varied for a community of its size located in the heart of the Champlain Valley. Prominent water features, including Lake Champlain, the Winooski River, Potash Brook, Centennial Brook, and Muddy Brook serve as important wildlife travel corridors and political boundaries (These aquatic resources are discussed in greater detail in the Blue Infrastructure section of this plan). Geological features ranging from lakeside cliffs to sandy soils play an important role in shaping the vegetation as well as development patterns in the area.

This chapter includes an inventory, analysis, and overall policy strategy of the natural resources and publicly-owned natural areas of the city. This chapter is supplemented by the discussions and analyses within the land use section of this plan. It is further supplemented by the myriad of existing and planned open space, natural area, water quality, and wildlife conservation plans and studies prepared by or for the city. As of 2015, these included:

- South Burlington Open Space Report (2014)
- South Burlington Open Space Strategy (April 2002)
- A Study of Breeding Birds in the Southeast Quadrant (July 2004)
- Wildlife and Natural Community Assessment of the Southeast Quadrant (July 2004) & Southeast Quadrant Environmental Resources Map (March 2005)
- Southeast Quadrant Open Space Master Plan Map (March 2005)
- Leduc Farm Landscape: A Natural and Cultural History (May 2009)
- Dorset Park Natural Area [now formally the Wheeler Nature Park] Natural Resource Inventory and Management Recommendations (July 2009)

Overview

Key issues and needs related to the city's ecological resources identified in this plan include:

- The city has retained a number of important natural areas that provide multiple benefits to city residents including recreational opportunities, wildlife habitat, groundwater recharge, storm and flood water storage, etc. However, the city lacks a well-defined, coordinated, city-wide open space plan to ensure protection of ecological resources and improved environmental quality as the city continues to grow and develop.
- The Champlain Valley is among the most fertile regions in Vermont, creating opportunities for both agriculture and development.
- Chittenden County presently meets federal air quality standards, but has in the past been a non-attainment area and could be so again.

Inventory

The South Burlington Open Space Strategy (2002) includes a overview of land throughout the city with higher ecological value based on compilations and analyses of the various resources described below and in the Blue Infrastructure section of this plan. The Southeast Quadrant (SEQ) Open Space Master Plan Map (2005) includes specific recommendations for properties that should be conserved. The South Burlington Open Space Report (2014) includes a significant number of recommendations ranging from potential scenic view protection areas, a park gap analysis, and mapped primary and secondary resource conservation areas. Land cover, bio-diversity, and-working lands are also mapped in this report.

Climate. South Burlington's northerly latitude assures a variety of weather and a vigorous, cool climate. The average annual temperature is 45 degrees, the average summer temperature is 65 degrees. The average annual frost- free growing season of 145 days is largely due to the moderating influence of Lake Champlain. South Burlington is one of the cloudiest areas in the U.S. with an average of 199 cloudy days a year. Precipitation is well distributed throughout the year and averages 32 inches annually in the form of rain and 80 inches annually in the form of snow. Winds are predominantly north-south in direction paralleling the Champlain Valley. Winds of damaging force are rare and occur mostly as thunderstorms.

The climate of the area is documented in the UVM Agricultural Experiment Station publication, *Climate of Burlington, Vermont*. The severity and duration of the winter shorten the construction season. The growing season varies somewhat depending upon the crop, but is generally considered to range from mid-April through late-October.

Careful design and construction of foundations, utility lines, and roadways become necessary to minimize damage from frost heaving and icing. As learned from the ice storm of January 1998, undergrounding of utilities is important.

Air Quality. Air quality in Chittenden County currently meets all basic federal health (attainment) criteria. For some measurements however - notably ozone and particulate

dust from local and national sources– ongoing monitoring is necessary. The primary sources of airborne pollutants include automobiles and trucks, industry, and residential / commercial heating.

Air quality is not a new concern in Chittenden County. During the 1970s and much of the 1980s, air quality in the county did not meet the National Ambient Air Quality Standards. Since 1987, air quality in Chittenden County – and all of Vermont – has met these standards. Air quality monitoring confirms that Chittenden County's air quality still meets the national standards, but ozone levels are close to the current national standard and fine particle pollution (PM) has approached the standard in recent years.

Keeping our Air Clean, a report released by the Chittenden County Regional Planning Commission in 2009, highlights the primary sources of air pollution in the region and presents a series of individual, local, and regional recommendations to maintain and improve our local air quality.

In May 2009, the City of South Burlington's energy committee completed an assessment of energy use throughout the community. The assessment revealed transportation to be the greatest single source of energy use in the city. With nearly all vehicles fueled by gasoline and diesel in the city, it is also a significant contributor to airborne pollutants.

Topography. South Burlington's landscape is lined by a series of ridgelines and river valleys and punctuated by cliffs along parts of Lake Champlain and the Winooski River. Elevations range from a low of 95 feet above sea level along the shorelines of Lake Champlain to a peak of 473 feet along a ridgeline in the city's Southeast Quadrant. Five prominent north-south ridgelines shape the city's landscape and play an important role in the historic transportation, settlement, and wildlife transit patterns of the community:

- Along the west side of Spear Street, from Swift Street into the town of Shelburne;
- Along the east side of Dorset Street, from Swift Street into the town of Shelburne with a gap in the vicinity of Cider Mill Drive;
- Along Hinesburg Road south of Interstate 89 into the town of Shelburne;
- Between Spear Street and Dorset Street, extending southward from Swift Street a short distance; and
- Along Old Farm Road from Kimball Ave to Hinesburg Road.

The high points of these ridgelines reveal in many cases spectacular views of the Green and/or Adirondack Mountains in the distance. Some have been incorporated into the city's Land Development Regulations as scenic view overlay districts.

North of these ridge systems is a flat, well-drained deltaic deposit. This flat area is drained by a network of drainage-ways towards Potash Brook to the south and tributaries of the Winooski River to the north. Burlington International Airport is located

in this area. Two other distinctive flat areas are found in the Southeast Quadrant. The smaller area is located to the east of Butler Farms. It contains a large wetland which is the source of Potash Brook. The larger area is located to the east of Spear Street. This area has a large wetland in its geographic center that drains into Shelburne Pond, a designated natural area. Floodplains and wetlands are found in the lowlands near rivers, streams and drainage-ways in association with the Winooski River, Potash Brook, Muddy Brook and their tributaries.

Bedrock Geology. Much of the Winooski and Champlain valleys' geologic formations were the result of glaciation. When the ice receded, Lake Vermont was formed which extended from the Lake Champlain basin to the foothills of the Green Mountains. The resulting valleys are covered with glacial drift and lake sediments. The significant bedrock geology laying near to the surface in South Burlington is located in the western portion of the city extending along the Lake Champlain shoreline. These are primarily limestone/dolomite, calcareous clastic, and meta-sandstone and quartzite.

The bedrock geology of the city relates to planning in many ways. First, shallow depth to bedrock and the presence of bedrock outcrops dictate the location of roads, leach fields, underground utility lines, and building foundations. Second, bedrock aquifers supply many wells in South Burlington. The quantity and quality of this groundwater must be maintained at least as long as citizens rely on private wells for their domestic water supplies. The effects of development on recharge areas as far as natural systems are concerned should also be borne in mind. Land development reduces recharge capability at the surface by increasing impermeable surfaces, such as rooftops, paved areas and lawns.

Soils. The Champlain Valley has long been identified as one of the most fertile regions in Vermont. Within this region, most of the soils in South Burlington are classified as prime soils or soils of statewide important for agriculture by the federal Natural Resource Conservation Service (NRCS). They meet the criteria for primary agricultural soils as regulated by the state via Act 250's Criteria 9B and have historically been active farmland. Although much of South Burlington has been developed, there is farmland, especially in the Southeast Quadrant, that remains viable for agricultural production.

The city's soils are mapped in the Chittenden County Soil Survey by the Natural Resource Conservation Service of the United State Department of Agriculture.

Vegetation. Trees, shrubs, and other soil cover are more than aesthetic amenities. They prevent erosion, improve air quality, provide visual and aural buffers, and furnish shade and protection from wind. Several remaining large wooded tracts are owned by the city or the University of Vermont and are maintained essentially in their natural state (see discussion on forest lands). Remnants of apple orchards and hedgerows along property lines and abandoned town roads are historic reminders of the city's agricultural heritage and past land use patterns.

Forest Lands. Forest lands are an important natural resource. Due to the urban character of the city, forest lands are more important for their recreational, educational, wildlife habitat and aesthetic amenities as opposed to their use for timber production.

Trees serve as temperature control, wind breaks and noise baffles, and provide important habitat for various types of birds and wildlife. Therefore, programs and methods to protect these lands should focus on public access and enjoyment, and wildlife preservation.

Several important, publicly accessible, forest land areas are identified in this plan including Red Rocks Park, Centennial Woods, East Wood Natural Area and the Kennedy Drive Natural Area. Additional important forest lands include the forested ravine area bounded by I-89, Patchen Road and Williston Road, and the 20-acre forested wetland/bog located in the southern end of the city between Spear and Dorset streets. These forest areas are in private ownership.

Wildlife. South Burlington is home to a wide range of wildlife, from insects and worms, to larger mammals like beaver, fox, coyotes, bobcats, deer, and occasionally moose and bear. Many bird species are also present, including some ground nesting species whose populations have declined in Vermont in recent years due to changing agricultural practices. Residents share the densely populated urban and suburban areas and open spaces with this diverse population of wildlife. These two users, people and wildlife, share the natural areas throughout the city. Past studies have identified travel routes - or corridors - most often frequented by larger wildlife. These corridors tend to focus on and include resources such as streams, wetlands, bogs, and undeveloped forest blocks.

Natural Areas. Natural areas in South Burlington have been identified by the city and its partners, the University of Vermont, the Vermont Natural Resource Council, the Chittenden County Regional Planning Commission, the Vermont Resources Research Center, and the South Burlington Land Trust.

These natural areas have generally been historically undeveloped, though most of the land in the region was logged and farmed for some portion of its history. Many contain unusual communities of plants and animals, rare species, and exceptional geological features. Two studies, the South Burlington Open Space Strategy (2002) and the Wildlife and Natural Community Assessment of the Southeast Quadrant (2004) document many of the most critical natural areas within the city. Of these, some are publicly owned, others are under private conservation easements, and others are not protected.

A comprehensive listing of natural areas, public and private, can be found in the Community Facilities chapter of this Plan.

Analysis and Challenges

The conservation of connected wildlife corridors and individual pieces of land containing unique physical features, together with careful attention to conservation of natural resources on developed properties have become increasingly important as development has continued to take place throughout the city. Whereas in the past undeveloped areas that used for active farm and forestry operations provided habitat

for wildlife and scenic views for the public, ongoing development pressure throughout Chittenden County has generated the need to actively conserve important open spaces, forested blocks, and connected wildlife habitat areas.

In order to maintain a balance of conserving important ecological resources and allowing for development, city policies will need to consider:

Climate and Climate Change. The region's variable climate places significant burden on natural communities in the area, further emphasizing the need for important corridors to be conserved. From a land use perspective, winter climate conditions require adequate snow storage on all properties, and place demands for regular plowing services by the city and other public and private entities. In addition, rainfall must be properly accounted for in order to ensure that stormwater runoff does not lead to declines in water quality or stream bank erosion.

The more global issue of climate change poses significant challenges for all communities, both in how they contribute to the change, and how they respond to it. The City of South Burlington has substantial opportunities to address both by fostering land use patterns, transportation modes and energy strategies that can temper the city's carbon footprint. Goals and strategies related to this issue are found through the plan under relevant chapters.

Geology. The bedrock geology of the city should be closely considered as a part of all development activity.

The effects of development on groundwater recharge areas as far as natural systems are concerned should also be borne in mind. Development reduces recharge capability at the surface by increasing impermeable surfaces, such as rooftops, paved areas and lawns.

Soils. Soils information is particularly germane to the future plans for land use. Much of the area contains soils of statewide importance (with limited areas having prime agricultural soils). Historically these soils have been beneficial to both agricultural operations and development. Today, the presence of these soils provide opportunities for development to be commingled with small-scale agricultural operations, community gardens, and the continued presence of larger scale operations associated with the University of Vermont and historic farms. The geographic nature of the area requires the city to balance small- and mid-sized agricultural opportunities with demands for affordable housing and economic development in the core of Chittenden County. Sandy soils along Shelburne Road and near the airport are well drained but of lesser agricultural quality, while soils in the southeast quadrant tend to include less well drained clay and loam soils.

Air Quality. As the city continues to grow, and especially as the county around us becomes more urbanized, the community must remain an active participant in efforts to maintain or improve air quality conditions. Growth can lead to reductions in air quality, but actions to counterbalance this, as described in the recent Chittenden County Air Quality Plan (2009), can mitigate potential problems and ensure that the

region does not become a "non-attainment" area. Land uses and activities with the greatest potential for air quality problems include certain manufacturing uses, quarry operations, congested intersections where vehicle stacking and queuing is substantial, and auto-dependant land uses in general.

Habitat and Vegetation.

- The presence of important ecological resources, as well as steep slopes, shallow soils, and extensive bedrock outcroppings should be incorporated into all types of planning for development and conservation.
- Many of the wildlife corridors within the city begin or extend beyond the city's boundaries, including the Muddy Brook, Shelburne Pond, Winooski River, Centennial Woods, and others. Coordination with neighboring jurisdictions and regional and state entities is critical.
- Effective wildlife habitat areas include travel corridors for foraging, hunting, nesting and drinking.
- Unique and historic natural areas can be open to the public and celebrated if carefully managed. Continued evaluation of these resources will be necessary to determine whether any might need to be "off limits" to the public.
- Conservation of mature and specimen trees is important due to the difficulty of successfully transplanting these trees; this must be balanced with ensuring that conserved natural areas retain a vibrant forest succession to ensure the future health of these areas.
- Maintaining a balanced variety of native plant species and actively removing non-native invasive species will help to support a vibrant system of flora and fauna.
- The planting of street trees can serve to provide a safer and more pleasant pedestrian experience, calm traffic flow, and contribute to urban beauty, air quality, and noise reduction. The city must continue to ensure a balance of different tree types to protect from wide-scale disease (such as the dutch elm disease).

Future Needs and Trends

Several population and development trends in South Burlington will shape the city's ecological resources in the coming years.

- **Population and Development Growth**. Population growth is expected to continue at a rate of average rate of 1.5 to 2.0 percent annually, with residential construction expected to continue at a similar or slightly higher pace. Commercial development is also anticipated to continue at a similar pace. This development will continue to place pressure on existing wildlife habitat areas as well as wildlife travel corridors. This is especially the case in the Southeast Quadrant.

- **Public Demand for Accessible Natural Areas.** Public interest in the acquisition, maintenance and accessibility of natural areas has grown steadily in South Burlington over the past decade. It is anticipated that this interest will

continue to grow as development continues to take place in previously unbuilt areas and as public recreational interests grow.

- At a regional scale, as development continues to take place throughout Chittenden County, attention to the need to acquire and maintain habitat corridors for public and wildlife benefit will likely grow.

Ecological Objectives

Objective 25. Proactively plan for a network of interconnected and contiguous open spaces to conserve and accomodate ecological resources, active and passive recreation land, civic spaces, scenic views and vistas, forests and productive farmland and primary agricultural soils.

Objective 26. Conserve restore and enhance biological diversity within the city, through careful site planning and development that is designed to avoid adverse impacts to critical wildlife resources, and that incorporates significant natural areas, communities and wildlife habitats as conserved open space.

Ecological Strategies

Strategy 54. Restrict and limit [prohibit] new subdivision and development within primary resource conservation areas to include hazardous and environmentally sensitive areas identified, mapped and regulated by the city. Minimize the adverse impacts of new subdivision and development, including resource fragmentation and encroachment, within secondary resource conservation areas, to include those resources of state or local significance as indicated on available resource maps, identified in available inventories and studies, and confirmed through site investigation.

Strategy 55. Continue to make use of the city's Open Space Fund to purchase lands or related rights, and to maintain these lands, for purposes of conservation of ecological and wildlife habitat and productive farmland; for purchase of recreational lands in line with the goals of this Plan.

Strategy 56. Redefine open space in new developments such that useable, quality open space shall be required. Qualifying open space should include civic spaces, recreation, wildlife habitat, and useable agricultural lands.

Strategy 57. Retain healthy and high-quality existing trees and vegetation and require new and diverse tree plantings as land is subdivided and developed.

Strategy 58. Encourage public education about tree functions and tree disease inspection in urban areas through cooperation with the UVM Horticultural Farm and Vermont Department of Forest Parks, and Recreation, Urban and Community Forestry Program.

Strategy 59. Retain publicly-owned natural areas and woodlands identified in this plan; develop and implement long-range management plans for each to foster their continued health and use.

Strategy 60. Maintain the city's wildlife diversity, including making use of available planning and legal tools such as buffers, transfers of development rights, overlay zoning districts, conservation easements and other tools as appropriate.

Strategy 61. Work with adjoining municipalities and regional entities to enact complementary land use policies where wildlife habitat areas cross city boundaries.

Strategy 62. Update and adopt the city's Open Space Strategy as a supporting plan to this Comprehensive Plan.

Strategy 63. Foster passive recreational use of natural areas and identify areas that may be appropriate for an "off-limits" designation due to their fragile nature.

B. Historic and Cultural Resources

Historic and cultural resources in South Burlington include scenic views, natural areas, historic properties and structures, and growing community amenities provided by local organizations, individuals, and the city.

The city's history has been well documented through annual reports, oral histories, and publications such as South Burlington Vermont 1865-1965 and Know Your Community: South Burlington Vermont 1865-1977. These publications provide a strong background of the city's formation from the original City of Burlington and describe the majority of buildings that today would be eligible for the National Register of Historic Places. As the community's first subdivisions and commercial development enter their seventh decade, however, the built environment that is considered historic is growing.

Cultural resources in the community have long been linked to those in neighboring communities, notably Burlington. The resources based in South Burlington have traditionally been scenic views, natural areas, parks, schools, the community library, and places of worship. These have been supplemented years by programming offered through various community groups, the city's recreation and parks department, and others.

Overview

Key issues and needs related to the city's historic and cultural resources identified in this plan include:

- Scenic views are among the city's most prominent cultural and historic resources.
- Though limited in number, historic homes and buildings dating from the pre-war period dot the South Burlington landscape.
- Some of South Burlington's historic resources have not been identified or documented as they were not considered "historic" during the period when statewide inventories of historic resources were compiled (primarily in the 1980s). Key architectural resources that exemplify the city's heritage should be recognized and protected in order to provide future generations of residents a physical connection to the period when South Burlington became a city.

Inventory

Views and Scenic Quality. There are a number of outstanding scenic views offered in South Burlington. From numerous locations in the city, one can see spectacular views of the Green Mountains to the east, and the Adirondacks and Lake Champlain to the west. The preservation of the scenic qualities of the city are critical to understanding its cultural landscape and heritage. Through careful planning, appropriate development design, and through acquisitions and easements, these vistas and viewshed protection zones can be protected for future generations to enjoy.

In the 1990s, vista viewpoints were identified for 17 key locations in South Burlington. Of these, Viewshed Protection Zones are now in existence for six views including from the Nowland Farm Road area, Hinesburg Road- north, Hinesburg Road-south, Spear Street and Allen Road, Spear Street at Overlook Park.

Additional views, along with an evaluation matrix, were examined and are available in the 2014 Open Space Report.

Historic Sites and Structures. The City of South Burlington has diverse historic resources, including archaeological resources that are not readily visible. Paleoindian archeological sites, landscape features such as stonewalls, historic farmsteads, Craftsman Style bungalows, International Style buildings, post World War II neighborhoods, and a variety of roadside architecture make up the cultural landscape and history of South Burlington. These cultural resources are visual representations of the city's heritage.

Archaeological sites offer insight into the more distant past when people did not write and provide information about events and activities. South Burlington's pre-contact and historic period archeological sites and historic buildings, structures and landscapes, help constitute its unique and diverse cultural heritage. Once these resources are gone, they can never be replaced. For certain time periods of history, these historic resources may be the only clues to our past.

South Burlington is unique among Vermont communities as a large portion of South Burlington's built environment was created during the years following World War II. While most would not consider the mid-20th century architecture of South Burlington to be historic, many of these sites and structures are historically significant. Those that are at least 50 years old may be eligible for the National Register of Historic Places.

A number of structures in South Burlington date from the 19th century. These include, among others, the Stone House at Van Sicklen Road and the Wheeler House at Swift and Dorset Streets.

Cultural Facilities and Organizations. Cultural facilities in South Burlington include a combination of public and private sector venues, including the city-owned O'Brien Center at Jaycee Park. The Recreation and Parks Department manages this facility and offers a range of community recreational activities and programming year-round. Cultural organization in the city include places of worship, service

organizations and community groups. In many cases, organizations offering cultural programming in the area are regionally, rather than locally, based.

Analysis and Challenges

Historic Sites and Structures. Care must be taken to appreciate South Burlington's cultural landscape as a record of the city's evolution from an agricultural to a booming post-war suburban community. A variety of components that make up South Burlington's cultural landscape must be preserved in order to preserve elements of the city's history. As the city develops, care should be taken to make development sensitive to the city's historic and archaeological sites and structures. Destroying historic resources can sometimes permanently destroy opportunities to interpret and understand our history. As South Burlington continues to develop, the historic resources that represent the city's past should be recognized and preserved as we plan for its future.

Heritage Landscapes. Nestled within the Champlain Valley, South Burlington's agricultural landscape is a critical part of the city's cultural heritage. The remaining farmsteads and farmland, particularly in the Southeast Quadrant, represent the historical development patterns of the community and reflect its strong agrarian past. Whether remaining in active production or becoming conserved areas, these landscapes can become important cultural links in an open space network.

Cultural Facilities and Organizations. The diverse geography and proximity to Burlington and other historic communities of South Burlington has historically made the presence and operation of cultural facilities and community-wide cultural organizations a challenge. The construction of the recreation path network has begun to sew the city's diverse and well-established neighborhoods together with its commercial areas and parks.

Scenic Viewsheds. The city has identified a series of scenic viewpoints and established scenic view overlay districts in the Southeast Quadrant. Opportunities exist for additional overlay districts to be established elsewhere in the community and should be explored.

Future Needs and Trends

Ongoing development will place pressure on historic structures and properties to be renovated or replaced.

Until recently, very few building in South Burlington would be considered "historic," as much of initial development in the community took place beginning in the 1940s. As greater numbers of structures reach 50 years of age, some buildings or neighborhoods may become eligible for designation on the State or National Register of Historic Places.

Historic & Cultural Resource Objectives

Objective 27. Protect important vistas and viewsheds, as viewed from public vantage points (public roads, paths, land); and designated landscapes, sites and structures of historic and cultural significance.

Historic & Cultural Resource Strategies

Strategy 64. Establish view protection overlay districts in other areas of the city and encourage designs that are visually harmonious with the natural landscape in view protection districts.

Strategy 65. Use the state Register of Historic Places listing for the city to help assess the significance of historic buildings, structures and landscapes, and consider listing road side architecture and post -World War II construction as historic properties.

Strategy 66. Consider regulatory tools that would require documentation of significant and identified historic or archeological resources before permitting their destruction.

Strategy 67. Pursue an inventory of the city's historic resources.

Strategy 68. Participate in appropriate reviews such as Act 250 or highway corridor hearings to protect important historical and cultural resources which may be threatened.

C. Recreation Resources

The City of South Burlington is home to an array of recreational facilities and programming. It is in part due to this that the city was named "Best Sports Town in Vermont" by Sports Illustrated in 2007. The challenge for the city - and community - is to balance the need for recreational facilities (developed and natural) with other uses of land, and to provide cost-effective services to residents of all ages, interests, and abilities.

Overview

Key issues and needs related to the city's cultural resources identified in this plan include:

- The city has a number of developed parks, but they are heavily used and not fully geographically distributed.
- Growing interest in undeveloped, natural recreation areas has provided new opportunities and additional acquisition and maintenance demands on the city and other local and regional partners.
- Recreational programming remains extremely popular and must regularly adapt to changing demographics within the community.

Inventory

Recreational Facilities. The City of South Burlington is home to a diverse range of recreational facilities. A comprehensive listing of Parks, public and private, can be found in the Community Facilities chapter of this Plan.

Funding. The city has used a number of strategies to acquire and upgrade both developed parks and city natural areas. In past years, South Burlington has taken great advantage of the federal Land and Water Conservation Fund. More recently, in 2000, city voters approved a special dedicated property tax of 1 cent to purchase open space or development rights to open space. The tax will yield approximately $160,000 per year. In 2010, the use of these funds was expanded to allow for up to five percent of the annual funds to be used for maintenance of open space.

Another implementation measure used to acquire parkland is through the assessment of recreation impact fees on new development. The city adopted its Impact Fee Ordinance, which includes recreation fees, in 1995. The payment of an impact fee is preferred where it is not practical to dedicate a park site due to the size, density or location of a proposed subdivision. There is a strict requirement as to how this money can be spent and there is also a time limit as to how it can be spent.

A third strategy has been the requirement of dedication of public park space alongside larger development projects via the Land Development Regulations.

Recreation Programming. Recreation programs are fundamental to the quality of life of people, our community, and society as a whole. Quality of life for people and the community can encompass a number of factors. Among those factors are individual, community, environmental, and economic benefits.

The mission statement for the city's recreation and parks department is reflected in the wide-range of programming opportunities offered- "To enhance the quality of life for all citizens of our community by providing meaningful and fulfilling leisure time activities, recognizing that each person is an individual with their own needs, abilities, and goals to be met during their leisure time."

The city's comprehensive list of recreation programs range in age from pre-school to senior citizens activities. There are currently 377 various programs offered in a number of major groups including: youth programs, family activities, special events, adult programs, camp programs, junior programs, and senior programs. In addition, the city works with area community groups, non-profits, neighboring municipalities, and the school district to coordinate and enhance programming available to the city's residents.

To a large extent, public school facilities house the vast majority of indoor programs, while the city's recreation fields and parks provide the majority of the outdoor programming space.

Analysis and Challenges

Recreation Facility Planning. The rate, location, and type of new residential construction present a variety of considerations for recreation planning. Nationally, a goal of 7.5 acres of developed recreation land per 1,000 population has been established. In South Burlington, residential development over the past decade has brought the city from being well above this target to close or slightly below. In addition, the

distribution of community and neighborhood parks, while generally widespread, does not provide for easy pedestrian access for all residents.

Maintenance and Safety. As the public path and park systems continue to grow, maintenance and safety are becoming increasingly important issues for the city to address. Maintenance is primarily the responsibility of the DPW's parks division, supplemented by occasional volunteer efforts. Staff repairs, paves, paints, landscapes, sweeps, mows, and plows the city's paths and parks as necessary and those costs are part of the city's public works budget. It will be important for the city to retain a regular upkeep and revitalization plan for its recreational facilities.

Recreation Programming. The recreation and parks department receives the second highest priority for the use of school spaces, next to school activities themselves. While this partnership is successful on many levels, there are still direct costs involved, lack of control in scheduling the spaces themselves, and with the length of a regular school day, the schools are prohibitive in providing recreational activities for preschoolers and the elderly, both significant needs that currently exist in our community. Alternative building space to provide for these types of activities is essential.

There remains an additional need for outdoor playing fields as well. Over the years, many traditional sports programs have transitioned into three-season sports placing a huge demand on facility spaces. In addition, many spaces are used for multi-sports events. Since there are limited designated field areas, additional playing spaces have developed out of necessity, and do not provide adequate space for the demand. Additional city parkland is needed to adequately provide facility space for various youth and adult sports programs

Future Trends and Needs

- As our population demographics continue to shift, so do our facility and programming needs. Among the trends are towards an aging population that has strong interests in lower-impact recreation.
- Trends from the past two decades indicate continued strong and growing interest in youth developed recreation facilities; there is an identified lack of lacrosse and soccer fields.
- Balancing needs for open space, developed recreation, and passive recreation space.
- Must balance new facilities and expected level of service with ability to provide services.

Recreation Objectives

Objective 28. Provide for the varied recreational needs and interests of its citizens by providing areas and facilities for passive recreation, active sports, cultural and educational programs, and civic gatherings.

Objective 29. Provide public access to natural areas within the city's more urban and suburban neighborhoods, for passive outdoor recreation and education.

Objective 30. Use the strategies in this plan to maintain 20-25 acres per thousand of the population of both passive and active recreational open space, to include 7.5 acres of developed park and recreational facilities per thousand population.

Recreation Strategies

Strategy 69. Consider and implement acquisition criteria and evaluation of land for the highest community need.

Strategy 70. Work with private developers to integrate additional public parks into the recreation system.

Strategy 71. Increase accessibility in parks, such that they may be enjoyed by all residents regardless of age, interest, and physical ability consistent with the proposed use of a recreation parcel and activity. Regularly evaluate and modify programming based on changing demographics.

Strategy 72. Strive to provide access to a park or qualifying open space area within a one-mile safe walk from each neighborhood in the city, and provide each neighborhood with a small park, mini-park, neighborhood park, community green or meeting area.

Strategy 73. Seek opportunities to establish additional public access and parkland along Lake Champlain.

Strategy 74. Establish a public recreation path along Lake Champlain.

D. Agricultural Resources

Agricultural activity in the city has a long and evolving history. Evidence of spear tips and other archeological artifacts indicate settlement and probable small-scale agricultural activity for centuries prior to the establishment of permanent settlements in the late 18th century. From that point forward, several farms were established in the community, focused on the products that were typical of the Champlain Valley: sheep, dairy cows, grains, etc.

As substantial development began to occur in the community beginning in the 1930s, the number and scale of farms initiated its decline. South Burlington today continues to have an agricultural presence, but it is one that is physically and economically very different from the past.

This chapter includes an inventory, analysis, and overall policy strategy of the agricultural resources within the city. This chapter is supplemented by the discussions and analyses within the land use chapters of the plan.

Overview and Inventory

The City of South Burlington is a largely urbanized community with only a small number of traditional farm parcels remaining. In recent years, however, new forms

of agriculture, from small vegetable farms to backyard gardens and farmers' markets, have emerged and started to become a significant part of the city's landscape and economic and cultural base. Existing agricultural resources in the city include:

- **Large-Scale Farms and Support Fields.** The city is home to a small number of large agricultural or hay field parcels dispersed throughout the city. Those include the dairy, hay, and corn fields owned and operated by the University of Vermont adjacent to Spear Street, a dairy farm operation at the extreme northern end of the city, the University of Vermont's Horticultural Farm off Shelburne Road, and farm and hay fields along Old Farm Road, Hinesburg Road, and Cheesefactory Road.

  Most of these, with the exception of the UVM lands and Belter Farm off Ethan Allen Drive, have reverted from active farm operation to minimal use as hay fields over the past generation. The city did, however, became host to a new operation in 2009, with the conservation of the former Leduc parcel and the establishment of the Bread and Butter Farm on approximately 140-acres split between Shelburne and South Burlington along Cheesefactory Road. This new farm includes dairy and vegetable production and an on-farm bakery.

- **Small-Scale Farms and Orchards.** A handful of smaller-scale agricultural operations are spread throughout the city. These operations are typically part-time work for those who operate them and vary in the products they offer. They are a relatively new addition to the South Burlington agricultural landscape. Of note are a small handful of "backyard" farms operated by homeowners and a small farm that has been integrated into the South Village development as a part of its overall mission of sustainability.

- **Community Gardens.** At present, there are two sets of public community gardens in the city; one on land owned by the University of Vermont at the corner of Swift and Spear Streets, the other at the National Gardening Association headquarters on Dorset Street. Both of these have waiting lists.

- **Farmers' Markets.** In 2010, the City Council passed an ordinance formally allowing for privately operated farmers' markets to exist. In response, after a trial run, a private retailer in the city operated a bi-weekly market throughout the 2010 growing season. The market included more than 40 vendors, including a handful of operations based here in South Burlington. An online request for feedback from residents provided universally positive feedback.

- **CSA Drop-Off / Pick-Ups.** In response to growing demands for community-supported agriculture programs in the region, wherein households pre-pay for farm products from local growers and received regular deliveries. These programs are so popular that in addition to nearby farms, several farmers in northern Vermont have established local "drop-off" points in the community. These sites allow for the producers to have centralized distribution and for households to have convenient pick up locations.

- **Private Gardens.** Though there are no formal records, anecdotal evidence suggests that there is a growing trend within the city for households to use

garden space for growing fruits and vegetables. Much of the soil in South Burlington is well suited to growing vegetables. In 2010, the South Burlington City Council also passed an ordinance allowing for the keeping of chickens in residential back yards.

- **Non-Profit Organizations, Vermont Fresh Network and Local Retailers.** In recent years, the interest in local agricultural systems has grown substantially. This has been reflected in South Burlington by the establishment of non-profit community groups such as Common Roots, which is dedicated to teaching school children how to grow food and prepare food and make healthy food choices, as well as in the in for-profit community. An increasing number of local retailers are carrying Vermont-made products to meet consumer demand, including some products that are produced or headquartered in South Burlington. In addition, a handful of area restaurants are members of the Vermont Fresh Network of business committed to buying locally-produced fresh foods whenever possible.

- Changing forms of agriculture for the future include: agroforestry, edible forest gardens, permaculture design, and rotational grazing.

Analysis and Challenges

The role of agriculture in Vermont, and particularly in larger communities such as South Burlington, is evolving extremely quickly. Not long ago farming and agriculture were considered to have a limited role in the city's future, with the continued operation of a handful of historic farms but little else. Growing public interest in local goods had shifted this trend and resulted in the establishment of several new farms, CSA drop-offs, and a farmers' market in recent years. The State of Vermont in its Farm to Plate Strategic Plan has stated: "Ongoing conservation efforts, especially for prime agricultural farmland, are essential to the future viability of farming in the State.... zoning ordinances, town and regional plans, and statewide planning legislation must be reviewed and adapted to encourage local agriculture and food distribution."

Several opportunities and challenges present themselves with this increased interest in local food production. Among them:

- **High Cost of Land.** The high value of land in South Burlington is among the principal reasons for the decline in large-scale farming operations in the community over time. These same financial circumstances place pressure on smaller operations as well, but could be somewhat be mitigated against through site planning, as in the instance of the South Village community. Land use planning tools including the use of Transferable Development Rights in the Southeast Quadrant may help conserve existing farmland by clustering development and designating agricultural land as non-developable.

- **Agricultural-Residential Interface.** Vermont law provides for significant protection for farming activities in the state. In some cases, conflicts can arise between agricultural operations and residential activities, including odor, hours of operations, and deliveries. In South Burlington, the limited scale of

agriculture over the past generation has led to relatively few conflicts. These issues are beginning to reappear, however, as some residents express interest in the small-scale keeping of animals and/or sale of products from farm stands. The city will need to continue this balance.

- **Shortage of Community Gardens.** Existing community garden space in South Burlington is limited and has significant waiting lists. The existing gardens are located in the Southeast Quadrant. At present, there is no municipal mechanism for the creation or management of new gardens in the community.

- **Permanence of the Farmers' Market.** The majority of farmers' markets in Vermont are hosted on municipal land by municipal entities or non-profit organizations under license from the municipality. The recently-initiated South Burlington Market is managed entirely by the private sector upon receipt of a permit from the city. The future existence of this market is dependant upon interest from the private sector to continue this operation, and the availability of private open land for its operation. The city may want to explore the possibility of a stronger role and/or partnership in the operations in the future.

Future Trends and Needs

Regional and national trends suggest that small-scale, locally produced agriculture will continue to increase in popularity in the coming years. With this will likely be continued interest in identifying ways in which South Burlington residents and businesses will have access to local foods. The city will need to continue to evolve and adapt to these community interests, balancing the positive and negative impacts for its residents.

Agriculture Objectives

Objective 31. Conserve productive farmland and primary agricultural soils within the city.

Objective 32. Support new farmers and entrepreneurs within the City who produce food for local consumption.

Objective 33. Enable, encourage, and incentivize agriculture and local food production dispersed throughout the city.

Agriculture Strategies

Strategy 75. Facilitate local farmers' ability to sell and process their products within the city.

Strategy 76. Use the Land Development Regulations to incentivize urban agriculture and local food production in the city.

Strategy 77. Where appropriate, actively use city-owned land for agricultural education, and for urban agriculture and local food production including community gardens and leasing of land to commercial farmers.

Strategy 78. Encourage new development, particularly residential or mixed-use projects that include homes without private yards, to create community garden space.

Strategy 79. Distribute community gardens throughout the city so that gardens are within walking or biking distance for all city residents.

Strategy 80. Explore state law related to the regulation of small livestock and bees, with the goal of increasing participation and expanding to other small livestock and bees.

Strategy 81. Set a goal for city schools to source an appropriate percentage of food from local sources.

Strategy 82. Encourage more value-added food processors who can strengthen and benefit from the quality of the Vermont brand to locate in South Burlington and bring more quality jobs to the city.

2.6. Achievements & Ongoing Actions

The city has a proud history of not only crafting thoughtful Comprehensive Plans, but implementing them throughout the planning period and beyond. What was a vision yesterday is a reality today. These important elements are in progress, and many are even self-sustaining. However, the importance of these goals should not be lost, nor should the ongoing actions associated with them be halted. As such, this section is included to retain them, keep sight of them, and honor their achievements.

General

- Continue to Collaborate with the South Burlington School District in master planning efforts and work together to regularly assess community facility needs.
- Continue to work collaboratively with the University of Vermont in master planning efforts.
- Continue to cooperate with the towns of Williston and Shelburne to plan compatible uses and densities along town boundary lines.
- Continue to monitor municipal functions, including but not limited to water and wastewater facilities, government operations, and school activities, to be cost and energy efficient.
- Continue to make efficent use of boards and committees while continuing to proactively and robustly solicit feedback from all community stakeholders.

Social Infrastructure

- Regularly update the city's All Hazards Mitigation Plan and Emergency Response Plan.
- Continue a policy of community policing, a partnership program that relies on ongoing commitment from all involved to establish and maintain partnerships with the community and eradicating the underlying causes of crime.
- Maintain adequate staffing and training levels for first response departments within the City of South Burlington and continue to develop mutual aid relationships.
- Continue to Build and reinforce diverse, walkable neighborhoods that offer a good quality of life by designing and locating new and renovated housing in a context-sensitive manner.
- Continue to support affordable, elderly and/or higher-density housing to be located near schools, parks, shopping centers, employment centers, day care facilities, transportation corridors, emergency services, and public transportation.
- Continue to Provide a range of residential zoning densities throughout the city in accordance with the Land Use chapter of this plan to allow for continued construction of new housing to meet the needs of the region's changing demographics, including at least some districts that foster high-density

housing and some that foster affordably moderately-priced single-family housing.

- Continue to partner with regional housing providers to develop new affordable housing and continue to expand the range of housing options available at all price and rent levels in South Burlington.
- Continue to encourage and consider incentivizing neighborhoods that use a mix housing types and integrate different types next to each other, rather than creating a mono-culture of one type of housing.

Gray Infrastructure

- Continue the city's membership in CCTA to provide continued bus service in and through South Burlington, and ensure that timely routes and related infrastructure are available to meet the needs of changing populations. Service should be concentrated in and link areas of densest development, while still serving populations with highest needs.
- Continue to upgrade city lighting to energy efficient and low maintenance LED lighting.
- Continue to implement a complete streets policy that incorporates sidewalks, crosswalks, crossing signals, bicycle paths, and bicycle lanes as appropriate in funding applications for new roads and roadway improvements.
- Continue to Partner with private property owners to construct and maintain stormwater treatment facilities for existing impervious area.
- Continue to Maintain the city's existing transportation system through ongoing, strategic investment.
- Work to develop the infrastructure (largely communications) to allow more people to work from home.

Blue Infrastructure

- Continue stormwater runoff modeling for watersheds, such as Bartlett Bay, that include both erosion and pollution evaluation in reference to the Environmental Protection Agency's total maximum daily loads (TMDLs).
- Continue water system design and improvement planning that would result in improved fire protection flows and circulation.
- Continue to require construction and inspect new water lines at standards that will ensure low long-term maintenance costs and the reduction of non-revenue water loss.
- Continue to work with landowners through the development review process to implement the infrastructure plan for the city's water supply and wastewater system.
- Continue to comply with Federal Stormwater permits mandating water quality improvements. Ensure such improvements are sufficiently funded through the Stormwater Utility.

Green Infrastructure

- Coordinate state and federal wetlands programs to conserve and restore Class II and Class III wetlands within the city.
- Continue to undertake education initiatives, use best management practices, and comply with requirements for erosion control measures and illicit discharge monitoring to minimize polluted stormwater runoff, in accordance with the city's municipal separate storm sewer system (MS4) permit.
- Continue to make use of the city's one-cent Open Space Fund to acquire, conserve and maintain important open spaces and natural areas within the city.
- Continue to work towards the elimination of pesticide use in the community.
- Continue to maintain Dorset Park as the hub of community activity and pursue development of the community center and aquatics facilities proposed in the 1989 Dorset Street Park Master Plan and updated in the management plan for a community aquatic center approved by the City Council in 1999.
- Continue to Use techniques available to the city to conserve important and connected natural areas identified in the city's Open Space Strategy, Southeast Quadrant Open Space Plan, and other research.
- Continue ongoing partnerships in education related to natural areas within the city.
- Continue to Retain the city's existing inventory of street trees and increase both the variety and number of street trees through regular maintenance.

Land Use Planning Areas

- Continue to facilitate the use of transfer of development rights within the SEQ zoning district to achieve the smart growth objectives for the SEQ.
- Continue to allow a neighborhood commercial center along Dorset Street in the area of the Chittenden Cider Mill.
- Maintain Spear Street as a north-south collector using access and traffic management techniques and pedestrian pathways and crossings.
- Continue to allow neighborhood areas with a buildable density of between four and eight units per acre, using development rights transferred from areas in the SEQ designated for conservation or protection.
- Continue to allow a small mixed-use commercial node similar to the R7-NC district in the vicinity of the IO district, near Hinesburg Road.
- Continue to limit uses in the Industrial-Open Space District to light manufacturing, research and testing, and office uses, and take steps through zoning and development review to limit potential adverse impacts on adjacent natural areas and residential neighborhoods.
- Continue to ensure that the open space and buffer area provisions are consistent with the SEQ Concept Plan and lead to the creation of usable, attractive conserved spaces.

- Continue to permit and require an integrated mix of single-family, duplex and multi-family housing in the SEQ zoning district.
- Continue to designate the Primary Natural Areas [Map in Appendix B, SEQ Natural Communities and Buffers], their buffer areas, and Secondary Natural Areas as "restricted" or "TDR sending" areas on the SEQ Zoning Map and to severely limit any residential or commercial development, subdivision or disturbance within these areas.
- Continue the designation of a three hundred foot buffer around the perimeter of the Great Swamp and Cheese Factory Swamp (Map in Appendix B, SEQ Natural Communities and Buffers) as an additional primary natural area subject to the same limits on disturbance, development or subdivision.
- Continue the designation of lands within a three hundred foot buffer area around the perimeter of the other Primary Natural Areas, and the lands within Secondary Natural Areas, as a supplemental restricted area with limitations on development, subdivision, and disturbance.

The quality of life, character, livability and viability of a community depends, to a very large extent, on its land use pattern. Decisions made over time on how to use the land greatly influence the quality and livability of our residential neighborhoods, economic viability of our businesses, transportation efficiency and safety, accessibility to work, shopping, and school, quality of air and water, and the overall character or image of a community. The land use plan is the fundamental element of the overall comprehensive plan. It provides strong guidance for all future development and redevelopment in the community and directly affects all other elements contained in the plan.

3.1. Current Land Use

Development Patterns

From its rural agricultural beginnings and its establishment as a separate municipality in 1865, South Burlington has grown and changed to a growing city with an exceptionally large range and diversity of land uses. The city's growth, and the diversity of its land use changes, is largely due to its location. South Burlington is "Vermont's transportation crossroads." It is the site of Burlington International Airport and the busiest exit on Interstate 89. It hosts many growing, high employment industries such as GE Healthcare, Ben & Jerry's, and Keurig Green Mountain among others, and is very close to the state's other major employment centers of Burlington, Williston and Essex Junction. The University of Vermont, which straddles the Burlington-South Burlington city line, and the University of Vermont Medical Center in Burlington further drive the city's land use change environment and the mix of uses.

South Burlington's land use environment is completely unique in Vermont. The city has everything from the state's major airport to working dairy farms within its borders, but none of the "…historic settlement pattern of compact village and urban centers separated by rural countryside" that is the historic "ideal" of Vermont. As a result, South Burlington's land use cannot be understood or managed in terms of the "traditional Vermont landscape;" it is its own community, and it will continue to be shaped uniquely through the decisions made by its leaders, landowners and citizens.

From 1865 to 1945, the community consisted of a number of large farms. Streets built as connections to the neighboring City of Burlington were the most influential factor in determining where growth would develop: to the present, the greatest concentration of housing and commercial development exist along the Rte 2 and Rte 7 corridors. However, there has never been an historic center to give the community an

economic or visual focal point. Thepost-war suburbanization trends common in the rest of the nation strongly affected South Burlington, long before Vermont's statewide land use statutes were in place. Predominantly single-family home neighborhoods such as Mayfair Park, the Orchards and the Airport Parkway area sprouted along Williston Road and Shelburne Road at the advent of the Fannie Mae-driven post-war housing boom. Strip commercial development along the same roads came when greater prosperity and access to vehicles allowed Vermonters to change their shopping, employment and living patterns. Eventually, as the region's economy grew and modernized, demand for single-family housing spilled over into the Southeast Quadrant and led to the subdivisions that began to appear there in the late 1980s and 1990s.

Since the 1990s, the city has sought to redirect land use into planned districts and corridors. Balancing residential and commercial/employment growth at roughly a 50/50 mix has been a goal since the early 1990s; more recently, this goal has been expanded to incorporate additional goals such as infill and redevelopment in developed corridors, and creating a greenspace network throughout the city. Thus, the land use plan in this Comprehensive Plan builds on work done over many years to expand and refine these concepts.

3.2. Future Land Use

A. Overview of the City's Land Use

Land Use Planning Background

Future Use of Land. The city's 1985 Comprehensive Plan set in place a number of policies that attempted to redirect the city's development pattern into a planned pattern that would, over time, support greater transit use, create a variety of residential options, and develop concentrated economic and social activity in local service centers. The plan called for directing development to the city's existing urban core via higher densities and infrastructure investment, creating a mixed-use, high density city center, and encouraging more pedestrian and transit friendly development along the city's major arterials. Since then, the city has set out to continue and strengthen the land use policies contained in the 1985 plan.

The 1991 Plan reinforced these goals added another: to increase efforts to protect important natural areas and open spaces, namely in the Southeast Quadrant. This became the main land use theme of the 2001 Comprehensive Plan, which also recommended preparation of an open space plan, and recommended a complete re-evaluation of the land use plan for the Southeast Quadrant.

These goals were carried through the 1996 and 2001 plans. Studies and planning work completed by the Planning Commission from 2000 through 2006 directly carried out many these recommendations. An Open Space Strategy was completed in 2001 and was followed by three Southeast Quadrant studies: The Ecological Assessment and Bird Habitat Study (2004), and a new master land use plan for the SEQ (2005).

The 2006 Plan included a revised and expanded chapter on the Southeast Quadrant, reflecting the results of the studies and input and complementing the zoning regulations amendments passed that same year encouraging preservation of the areas of greatest ecological significance, creating a new village center on Dorset Street around the Chittenden Cider Mill, and making public investments in a series of connected parks and paths woven around new, walkable and connected residential neighborhoods through use of a Transfer of Development Rights (TDR) program; continued implementation is strongly supported by this plan as well.

The focus on infill has also seen great progress in the past decade. The Farrell Street/ O'Dell Parkway development, with over 400 new housing units as well as redevelopment of the old Mall 189 complex, is a model new neighborhood that has received notice throughout New England. Many smaller infill projects were proposed and built after the Planning Commission completed zoning amendments that reduced or eliminated minimum lot sizes, frontage requirements and large setbacks, and that increased the base density in the City's core and corridors from seven to 12 or 15 units per acre.

In the past five years, the city has initiated studies and actions to further support quality mixed use environments along its primary corridors, including the US Route 2 Corridor Study, Williston Road network analysis, and Shelburne Road corridor studies. The city has also pushed forward with the development of City Center, gaining a state "New Town Center" designation advancing the reconstruction of Market Street.

At the same time, the Chamberlin neighborhood adjacent to the Burlington International Airport has seen some of its housing stock removed due to noise impacts from the airport. Establishing a new integrated transition between these two land uses will be a focus on the next several years.

This 2016 Plan seeks to further build upon these core attributes, focusing on strengthening policies in support of the Goals of the Community listed in this Plan.

General Land Use Objectives

Objective 34. Strive for the majority of all new development to occur within the Shelburne Road, Williston Road, and Kennedy Drive Corridors, and other areas within the Transit service area.

Objective 35. Encourage the majority of new development within the Williston and Shelburne Road corridors to be mixed use (residential/commercial) - vertically, within the site, or on complementary sites.

General Land Use Strategies

Strategy 83. Allow phasing on individual projects as needed to ensure that development occur only in conformance with the city's ability to provide services.

Strategy 84. Participate in Act 250 reviews on both local and regional projects which affect the city.

Strategy 85. Continue to refine the city's Land Development Regulations to promote the Plan's goals and objectives.

Strategy 86. Designated open space areas should be consistent with the district (zone) in which they are located and physically and functionally suitable for their intended use.

Strategy 87. Seek opportunities to foster effective transitions between residential and non-residential areas.

B. Future Land Use Plan

Overview. It is the intent of this Plan to maintain an effective balance between green space, natural areas, residential, commercial and industrial development. The future land use plan strives to reflect the overall goals of the city and to balance the various objectives and strategies of this document.

Planning Areas. This plan is designates a series of four quadrants and one district that share common geography, land use, and transportation patterns, and where the

goals, objectives, and strategies of this plan will require careful consideration. For each quadrant or district, this chapter provides an overview of existing land use, projected future land use, key planning issues, and transition areas.

The quadrants / district discussed in this plan include the:

- **Central District**, including City Center and surrounding areas;
- **Northwest Quadrant**, including areas west of the Airport and north of I-89, exclusive of the Central District;
- **Northeast Quadrant**, including the Burlington International Airport and areas north of I-89;
- **Southwest Quadrant**, including the Shelburne Road corridor;
- **Southeast Quadrant**, including areas south of 1-89 and east of Spear Street.

Context and Connections. These sections are intended to complement the more thorough inventories and analyses of the Green, Grey, Blue, and Social Infrastructure chapters by highlighting some of the notable opportunities and challenges within the quadrant or district. Plans and concepts for future use of land in each quadrant or district is tied closely to the analysis, objectives, and strategies enumerated within the other chapters of this Plan. Each of the chapters are intended to be read together, guided by the community-wide goals set forth in this plan.

Future Land Use Map

The future land use plan is accompanied by a map of the same name. This map depicts the five quadrants/district described above, and provides for a series of broad categories of planned land use and intensity. The features on this map are purposefully blended, so as not to focus on a specific parcel or delineation between land use features. That level of specificity is left to the Official Zoning Map.

Those broad categories include:

- Very low intensity, principally open space
- Lower intensity, principally residential
- Medium intensity, principally residential
- Medium to higher intensity, principally non-residential
- Medium to higher intensity, mixed use

Together, these broad categories are intended to encompass key issues and areas addressed in this Comprehensive Plan and provide an overall framework for implementation of the plan. Land use policies for these areas are reflected under the objectives and strategies of the Plan and enacted through the various tools described in the implementation section of the Plan and elsewhere.

Categories purposefully blend into one another and in some cases blend into a white background. These blended areas include transitional areas within the city, where the land development regulations and other policy documents of the city may specify

tools for effectively managing changes in intensity, land use patterns, resources, or transportation patterns.

Finally, a series of themes that cross through multiple neighborhoods, such as mixed use corridors, transition areas, and natural resource corridors discussed in the text are depicted on the map.

C. Land Use Planning Areas

Central District

Area Included. The Central District includes a diverse mix of commercial corridors, transportation systems, single and multi-family residential areas, schools, undeveloped land, and designated parks. It includes the Williston Road corridor from I-89 to Hinesburg Road, the Dorset Street corridor north of Kennedy Drive, and the Hinesburg Road corridor north of Kennedy Drive.

Current Land Use. The Central District includes an eclectic diversity of land uses that partially interact with one another. Developed as separate residential neighborhoods, commercial areas, and public facilities beginning in the 1940s, this area slowly evolved into a loose "core" of South Burlington. Today, this includes three schools and related grounds, the city's offices, retail establishments along Williston Road and Dorset Street, the University Mall and Blue Mall, several mid-sized single-family residential neighborhoods, and a grouping of multi-family residential homes.

These distinct uses are connected together via the three principal arteries in the area and a pair of natural areas, but no secondary streets. These principal arteries serve both local and regional traffic. The result is a "core" to the community that is both closely linked via geography and transportation and also separated from itself in terms of pedestrian activity or shared sense of community.

This Central District is also home to a uniquely positioned, undeveloped piece of land at its very heart. This land, comprising approximately 40 acres north of the municipally-owned Dumont Park between Hinesburg Road and Dorset Street, has been used for multiple purposes over the years, including a small quarry and a race track. In the mid 1980s, citizens saw an opportunity to work with private land owners in this area to develop a mixed-use downtown for South Burlington, to be known as City Center.

Future Land Use. The vision for the Central District is to effectively blend existing neighborhoods, commercial areas, natural areas, underdeveloped properties, and undeveloped lands into the true "downtown" of South Burlington. This "downtown" will provide increased connectivity through new cross-streets; support an integrated mix of housing, retail, and employment; and be a primary focal point for new mixed use development within the city.

At the heart of this District lies the City Center, a long-standing area of effort and energy for the community (see pull-out box). This area, planned to accommodate

up to 1,200,000 square feet of development and over 15 acres of conserved land, is intended to not only create a focal point for the city that unifies the entire district, but also to support a significant portion of the local demand for commercial development and multi-family housing in a compact, sustainable manner.

City Center would support this objective by establishing a series of streets that would connect to the principal arteries in the area, providing opportunities for housing and employment in an area well-served by public transit and existing public utilities, and creating smooth transitions to existing neighborhoods and commercial areas.

The Williston Road and San Remo Drive sections of the Central District contain significant opportunities for redevelopment. Initially built as low-density, strip-type commercial development (and light industrial development along San Remo Drive), these areas have witnessed a slow transformation toward more compact uses. Zoning in the areas was adjusted in 2003 to allow for a mix of commercial and residential uses. Additional amendments will likely be needed to support the types of multi-modal, walkable environments that the community has begun to envision for this area. Eventually strip-development will be replaced or filled in with additional development, making efficient use of this core area and supporting walkability from surrounding areas.

Much of the remainder of this District is built out. Residential neighborhoods along Dorset Street and Hinesburg Road include a handful of vacant lots available for infill development, but for the most part the focus of this Plan is to support the continued use of these areas for residential use, understanding that as the community's demographics change, so do the needs of its citizens.

Similarly, the intent of this Plan is to support the ongoing use of the three schools in the area, the Rick Marcotte Central School, the Fred Tuttle Middle School, and the High School, and to promote interconnectivity and integration of these schools with surrounding areas. The conceptual plans for City Center do envision the development of a portion of the Central School, or potentially a future closure and redevelopment of the site as a whole. This concept of closing the school was the subject of substantial discourse in 2015.

Key Planning Issues. Important planning considerations in the Central District relate to its auto-dependent, strip-development physical layout.

- **Traffic, Parking, Pedestrian Accessibility.** Traffic along Williston Road and Dorset Street is generally heavy and can exceed the system's capacity at peak hours. This is due to a number of factors, including the presence of I-89's Exit 14 at the north end of Dorset Street, the arterial design of the roadway network that does not allow for any distribution of vehicles, and the heavy demands put forward by the University Mall and other retailers in the area at peak hours, all in a predominantly auto-dependent environment. These challenges are exacerbated by a built environment that has favored surface parking in front of buildings, improving convenience for drivers but discouraging all other modes of transport.

These challenges are being addressed incrementally by various partners and parties. In 2009, the Chittenden County Transportation Authority redesigned its bus service in the area, creating a new route that stays on Williston Road all of the way from Burlington to Williston (with the exception of the UMall) and offers 15-minute headways at peak hours. Zoning in the area, meanwhile, is transitioning to encourage more pedestrian-friendly site design. Finally, planning for City Center includes efforts to establish a Tax Increment Finance District in the area to support needed infrastructure improvements, such as the redevelopment of Market Street and the construction of a parking garage.

- **Public Amenities and Open Space.** The community vision for City Center calls for the establishments of one or more public amenities to serve as a focal point for the community. The lack of any such amenities – aside from walking trails through Dumont Park – is a missing link in the core of the city. Recreational facilities are available at the schools in the area, but there is no formal public gathering area save for the bandshell at Dorset Park, located nearly 1.5 miles south of the Dorset Street / Williston Road intersection.

  Conceptual plans for City Center include a public square that would serve as a gathering place and public events locale, as well open space in the vicinity of Potash Brook and walking trails that would lead across the Brook to Dumont Park. In addition to these, gateway artwork and gathering point are envisioned for the area.

  Further to the south, a significant open space area exists to the east of the high school. Maintenance of this natural area and walking trail system should be continued.

- **Placemaking.** The development of City Center is a unique opportunity to foster a place- to make a 'there' here. Placemaking will foster the creation of a destination built from community interests, of the community's goals, and for a true community destination. City Center will become the front porch for South Burlington- a place to meet neighbors, greet visitors, and inspire pride in the community.

- **Supplying Energy Sustainably and Reliably.** The development of the City Center requires energy to heat and light building and to power transportation systems. This new development also offers the opportunity to define land use and transportation patterns and design new structures that minimize energy supply costs and strength the resiliency of the energy supply systems for this important center of community activity.

  The enactment of Act 89 by the State legislature strengthens the statewide Energy Code that governs new construction and major renovations of existing buildings. The statute offers the City the opportunity to offering the opportunity adopt a "stretch code" that would require construction quality that will reduce energy costs for building owners for many years in the future. The creation of a Tax Increment Finance District for the City Center area can

support the development of efficient integrated energy supply systems that reduce energy costs and strengthen the ability of the area to continue operations when during power outages that result from severe storms and other emergency events. Building design and site planning under consideration offers the opportunity to provide for on-site solar energy supply that fits with the development of a City Center integrated energy supply system.

- **Stormwater Treatment.** Among the most significant challenges faced by the Central District is the lack of sufficient stormwater treatment. Much of the area was developed prior to the advent of sufficient treatment systems, and includes significant paved areas. Two watersheds – Centennial Brook and Potash Brook – cross through the area. Both are listed on the State's Impaired Waters list for stormwater.

  The state, city, and individual property owners have begun to work on these issues collectively. The city received a $1.1 million grant from the Army Corps of Engineers to work with private property owners in the development of a stormwater system to treat run-off from the Williston Road area east of Hinesburg Road. In addition, individual property owners have begun redesigns of existing facilities to comply with rules established by the Vermont Agency of Natural Resources.

- **Housing Affordability.** The Central District provides the community with the opportunity to meet a significant portion of the anticipated demand for housing in the coming years. The challenge with this will be in fostering the development of housing that is both affordable to a mix of households and also meets their needs as families. The compact nature of the area, combined with high land costs due to its location, indicates that multi-family housing is the most viable form of residential development for the area. Multi-family housing can be friendly to households of various types, but relies on the availability of public amenities such as safe and accessible parks and services nearby.

  The city will likely need to continue to make use of incentives and regulatory tools to foster affordability in this area.

- **High Quality, Concentrated Development.** The original vision for City Center included a goal of fostering development in this area in order to conserve open spaces, natural areas, and farmlands elsewhere in the city and the region. To some extent, the establishment of a mixed-use area will serve to meet this goal by creating conditions for development to take place in a compact, pedestrian-friendly environment. It is a greater challenge, however, to couple this with initiatives to conserve land elsewhere in the community.

  The pattern of development in the city over the past 25 years or more has been a mix of some compact, "infill-style" development – such as at Farrell Street – together with substantial continued development on the fringes of the city, such as along Allen Road, Lime Kiln Road, and in the Southeast Quadrant.

The community will need to continue to explore tools to focus development in the core areas of the city, while continuing to meet objectives of affordability and family-friendliness.

Central District Objectives

Objective 36. Create a cohesive, diverse, dynamic and people-oriented City Center with a strong identity and "sense of place" that incorporates harmonious design, an appropriate mix of residential and non-residential uses and public amenities that complement adjoining neighborhoods.

Objective 37. Establish vibrant streetscapes, civic spaces, public art and public facilities in the Central District and City Center.

Objective 38. Reserve and establish open space areas for public enjoyment,natural resource conservation, and stormwater management, to include a greenway along Potash Brook. .

Objective 39. Complete master planning for City Center to create opportunities for low impact stormwater management that incorporates sustainable design and green infrastructure.

Objective 40. Conserve and protect existing residential areas.

Objective 41. Minimize overall demand for parking in the Central District through design that fosters pedestrian, bicycle, and transit use and provide efficient, aesthetically pleasing central parking options.

Objective 42. Promote interconnectivity and integration of schools and school facilities open to the public with surrounding neighborhoods, to include safe routes for children and neighborhood residents to walk and bicycle to school.

Central District Strategies

Strategy 88. Maintain Dorset Street and Williston Road as local and regional thoroughfare corridors serving both local and regional traffic and foster ease and safety of pedestrian crossings.

Strategy 89. Maintain Hinesburg Road from Market Street to Kennedy Drive as residential corridor.

Strategy 90. Develop a centrally located, well-designed public green or square on Market Street to serve as the focus of the new City Center. Include local residents, businesses and property owners in its design – e.g., through a professionally facilitated design charrette process.

Strategy 91. Preserve Dumont Park within the City Center as a forested natural area that enhances and ecologically supports City Center development, and provides public green space for passive recreational use, to include a linking, interconnected public path or trail work.

Strategy 92. Designate a protected greenway along the length of Tributary 3 of Potash Brook through the City Center of sufficient area and width to restore, protect and enhance water quality, stream channel and wetland functions, and adjoining riparian areas; to manage and treat additional urban runoff; and to accommodate compatible recreational use of the stream corridor, including a planned public boardwalk.

Strategy 93. Work with property owners and developers to implement stream channel, stream flow and wetland restoration plans for Tributary 3 of Potash Brook, as required for stormwater management and mitigation to improve water quality and meet total maximum daily loads (TMDLs) for the brook.

Strategy 94. Implement studies to plan for and design a civic complex consisting of a new City Hall, library, state offices, recreation center senior center and/or a post office (i.e., retail portion only), to border the main public green or square on Market Street.

Strategy 95. Regularly update the City's Official Map to include the most up-to-date plans for streets, parks, recreation paths, other civic spaces and utility infrastructure, including public paths, greenways and civic spaces planned for public acquisition and development within the City Center. Pursue public acquisition of mapped facilities through public dedication, and as available funding allows.

Strategy 96. In addition to the use of public funds and TIF District revenues, seek funding and explore public-private partnerships to provide necessary public amenities-e.g. to include green and civic spaces, sidewalks, trees, outdoor furniture and lighting, parking and public transit amenities.

Strategy 97. Develop an efficient, convenient and attractive parking plan to serve the center area and explore funding and/or partnerships to acquire land and construct public parking facilities.

Strategy 98. Use design review and/or form-based coding to promote the development of aesthetically pleasing, pedestrian-focused and highly functional environments

Strategy 99. Explore the establishment of a non-profit South Burlington Community Development Corporation as recommended in the 1999 report entitled, "Establishing a Local Development Corporation in South Burlington", to facilitate development in the City Center.

Strategy 100. Review the parking requirements of the city's Land Development Regulations, provide credit for presence of alternate means of transportation, explore a parking trust fund, and encourage sharing of parking facilities.

Strategy 101. Evaluate zoning along Hinesburg Road north of Market Street to foster a harmonious transition in land uses.

Strategy 102. Complete Federal, State and local permitting for the Federally- funded Market Street Improvements

Strategy 103. Establish a Tax Increment Finance District to support development of needed infrastructure improvements to serve the Central District.

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Northwest Quadrant

Area Included. The Northwest Quadrant is a geographically mixed area of the city that consists of multiple separate and distinct residential neighborhoods linked together – and separated by – arterial roadways and natural features. It is bounded by Burlington to the west, I-89 to the south, the Burlington International Airport to the northeast, and industrial-open space areas to the east. The Central District is contained within this larger Northwest Quadrant.

Current Land Use. The Northwest Quadrant consists predominantly of residential neighborhoods interspersed with a handful of large parcels of open land and dissected by several major transportation facilities. It is home to an array of distinct neighborhoods, including Mayfair Park, Pine Tree Terrace, Chamberlin, O'Brien Farm, Spear Street, East Terrace, Valley Ridge, Tree Tops, Twin Oaks, Winding Brook, and others.

The majority of the neighborhoods north of the Potash Brook, which parallels Kennedy Drive, consist of single and two-family homes. The majority of these homes were built between 1945 and 1970, with a small number of infill sites, and one full neighborhood, Quarry Ridge, built since that time. Neighborhoods along Kennedy Drive were built beginning in the 1970s and include primarily multi-family homes of varying types, with a small handful of exceptions.

The Northwest Quadrant is home to a handful of largely undeveloped properties. These include, notably, land between Williston Road and Patchen Road, adjacent to I-89 that includes two ravines; land on both sides of Old Farm Road; a significant wetland complex that houses the main branch of the Potash Brook north of Kennedy Drive; and lands belonging to the University of Vermont along Spear Street that are used for both agricultural and conservation purposes.

Finally, the Quadrant is somewhat characterized by the transportation network and associated commercial strips that divide it. Key among these are Williston Road, which links the Chamberlin and Mayfair Park neighborhoods, Kennedy Drive, which link several distinct neighborhoods, and I-89, which separates the East Terrace and Spear Street neighborhoods from the rest of the city and bears a certain relationship with neighborhoods in Burlington.

Future Land Use. Several of the oldest neighborhoods in South Burlington are located in the Northwest Quadrant. It is the intent of this Plan to maintain these neighborhoods and their housing stock and protect them from commercial encroachment, while at the same time supporting the evolving needs of its residents, improving pedestrian connectivity and access to services, and allowing for infill development that is in keeping with the existing built environment.

This Quadrant will always be both tied together and split by transportation arteries that serve local and regional purposes. It is the intent of this plan to allow for the continued use regional use of these arteries, in a manner that is also conducive to safe access and use by residents and visitors on foot, on bicycle, and via public transportation.

A key interface of the residential neighborhoods and transportation arteries exists along Williston Road. This corridor serves multiple purposes and is proposed to continue to do so. The section of Williston Road west of Hinesburg Road is located within the Central District. The section immediately east of Hinesburg Road is primarily residential and should continue to be used in this manner. East of Victory Drive, land uses are planned to include a mix of residential (on the north side) and non-residential (on the south side). East of Mills Avenue, non-residential uses are programmed for both sides of the road. In all of these areas, development should create inviting spaces for residents in nearby neighborhoods to walk to services along Williston Road.

Neighborhoods along Kennedy Drive have traditionally kept a heavily landscaped face to the street. This should remain as future neighborhoods are established in the area.

Remaining undeveloped areas provide an opportunity for multiple uses, including housing at a density and design that is transit-supportive, recreational lands, and natural areas. Limited neighborhood commercial areas are envisioned. Finally, it is the intent of this quadrant to integrate with surrounding planning areas, notably the Central District and Northeast Quadrant.

In 2015, the City, in collaboration with the CCRPC, School District, and Airport, initiated a Chamberlin Neighborhood Apirport Visioon & Plan project. The objectives are to establish a process for productive communications between the airport and the neighborhood; facilitate development of a neighborhood land use/transportation plan that strengthens the neighborhood, seeks to retain affordability of housing, relates the neighborhood to development of City Center, continued reinvestment along Williston Road, implementation of SB School District plans, and any planned transportation improvements in the vicinity of the project area, and results in an improvement plan for parks, streetscape, and other public amenities. Other goals of the project include identifying multimodal transportation connections/improvements, both transitional and long-term, that enhance neighborhood mobility and livability, while maintaining efficient ground access to the airport, and developing, with collaborative input, a vision for the neighborhood that can help shape the re-use of Noise Land as described in the Part 150 Noise Land Inventory and Re-Use Plan the airport develops every 5 years in compliance with Airport Improvement Program Grant conditions.

Key Planning Issues. While for the most part the Northwest Quadrant's built environment is stable, its extremities have seen substantial changes and area likely to continue to evolve, as will the demographics of its residents and their associated needs. Among the key planning issues facing this area:

- **Maintenance of Existing Housing and Neighborhoods.** As the first of the neighborhoods in this Quadrant approach 60 years of age, the demands placed upon both the housing stock and the neighborhoods as a whole are changing. Household composition has evolved, with greater demands for space within buildings and for pedestrian access to nearby services. New housing been added in both new neighborhoods and as infill within existing neighborhoods. In many cases, this new housing has been well integrated into existing areas, but not universally. As demand remains strong for housing in the core of Chittenden County, these neighborhoods will likely continue to see interest in infill development. This can be a positive force, providing new families with the opportunity to make use of schools in the area and strengthening neighborhood connections, but should be done in a manner that effectively integrates new with old.
- **Affordability.** Much of the more moderately-priced housing in South Burlington is located in the Northwest Quadrant, within the multi-family and single-family neighborhoods. This housing is generally relatively small in scale and compact with its neighbors. These attributes are among the chief reasons for their relative affordability. The challenges of affordability persist, however,

with some households struggling to retain their homes while other homes are removed due to their proximity to Burlington International Airport.

The community will need to continue to work towards creative solutions to these challenges, allowing for new, similarly affordable housing to take the place of what is being lost, and giving households opportunities to stay in their neighborhoods through multiple stages of life.

- **Pedestrian and Bicycle Infrastructure.** The principal streets that bisect the Northwest Quadrant carry some of heaviest traffic loads in the State. These include Williston Road and Kennedy Drive, and to a lesser extent Airport Parkway, Spear Street, and Patchen Road. Of these, only Kennedy Drive contains full amenities for pedestrian and cyclists needs. The remainder can be difficult to cross at times and do not always contain sidewalks. Local roads serving these neighborhoods contain relatively low volumes of traffic but are in some cases perceived as being unsafe because of a lack of sidewalks, roadway designs that encourage high-speed vehicular traffic, a lack of additional alternatives, or all of the above.

  The neighborhoods within the Northwest Quadrant are undergoing an incremental transition in terms of amenities and safety. New sidewalks are being planned for areas serving schools. A handful of new streets are planned to provide both residents and visitors with alternatives for accessing commercial areas. Ongoing public education is needed to remind drivers of the need to be attentive and respectful within residential areas.

- **Neighborhood Connectivity.** The historic development of each of the distinct neighborhoods within the Northwest Quadrant have been just that: distinct and separate. Connections – in terms of streets, walking paths, recreation paths, etc. - are limited in both number and function. This has led, on a positive note, to a strong sense of community in these areas, but also to isolation from both other neighbors and from services and stores. While several of these neighborhoods are pedestrian-friendly within their own confines, they face significant obstacles in reaching nearby amenities.

  A policy of establishing street and recreation path connections in conjunction with new development has been followed for several years throughout the City. In this area, the handful of newer roads have been connected, but the overall problem remains in place. The plan's future transportation map does include a series of future potential connections in the community, notably an east-west street parallel to Williston Road on its north side from Patchen Road towards Dorset Street, and a street connecting Eldridge Street to Old Farm Road. The map also illustrates additional recreation path connections in the northern part of the city, notably in the Airport Parkway area, connecting to the Country Club Estates neighborhood on the north side of the airport.

- **Public Amenities and Open Space.** The presence of neighborhood parks and open space is spotty throughout the Northwest Quadrant. Only one

formal developed park, Jaycee, exists, though three additional school sites are either within or adjacent to the Quadrant. The lack of public parks is especially apparent amongst multi-family neighborhoods, where private facilities were constructed in the 1970s and 1980s, serving their immediate needs but offering no opportunities for wider use or interaction.

Larger tracts of open space exist in certain instances, notably along the Potash Brook. Other areas, such as the headwaters of the Centennial Brook, have not been conserved in the same manner. Future development – especially of new neighborhoods – should incorporate public amenities such as parks

Transition Areas. Northwest Quadrant transition areas include:

- **Burlington International Airport.** Among the most challenging issues facing the Northwest Quadrant – and the City as a whole – is the interface between the Burlington International Airport and the adjacent Chamberlin neighborhood. This issue is discussed in great detail in the transportation chapter of the Plan, but it a topics that crosses multiple subject areas. Over the course of several years – from the late 1990s projected through towards 2020, the Airport is carrying out a plan to purchase noise-impacted homes from homeowners who approach them with a request to sell. These homes, approximately 180 in total, are located within a noise contour line of 65 decibels (average day-night). These homes, once sold to the Airport, are required to be removed or relocated. The result is a loss of a portion of one of the city's historic neighborhoods, the loss of housing stock within the city, and a challenge of determining how best to make use of the land in the future.

  The Airport has been developing an update to its master plan that includes a vision of the future use of its land. Several community meetings have been held in which the Airport and community have discussed a combination of green space to buffer the neighborhood from the Airport, and additional space for future Airport facilities and access. The issue of how to best use this land in the future, and whether street connections should be preserved or curtailed in the future remains an ongoing discussion amongst all those involved.

  The repercussions of the growth in use at the airport extent beyond the immediate properties, however. Several city streets – Airport Parkway, White Street, Patchen Road, and Kirby Road among them – serve to both provide access to the Airport and to connect adjacent municipalities with Williston Road. The result is increased traffic on these traditionally residential streets. As the city considers how to meet transportation and land use needs of the airport and city, care should be given to minimizing through-traffic on purely residential roads.

- **Campus Interface.** The Northwest Quadrant includes the University of Vermont in two areas – along Spear Street and along Patchen Road. In both cases, residential neighborhoods abut University lands.

The Spear Street, East Terrace, and Quarry Hill neighborhoods in particular are tied to the University, in that they are physically close to its athletic facilities and student housing, and include a fair amount of homes used by students and faculty within the neighborhood itself. In 2010, a building on Quarry Hill Road was leased by Champlain College for freshman housing on a temporary basis while new facilities are built adjacent to the campus.

The interface in this area is direct and should be assessed to foster ongoing mutual benefit. South of these neighborhoods the University owns land on the east side of Spear street that has been used for agricultural research. The city and University should work together to develop long range plans for this area.

Along Patchen Road, the University has held discussions with both Burlington and South Burlington regarding potential faculty housing being constructed in the area. Accessibility is among the most significant challenges in this area in both communities.

The presence of the University and College in these areas presents both opportunities and challenges for the community. It is important that the neighborhoods adjacent to the properties continue to thrive and to meet the needs of both full-time residents and students.

Northwest Quadrant Objectives

Objective 43. Maintain existing affordable diverse residential neighborhoods and access to neighborhood parks and other amenities.

Objective 44. Allow for infill development, including parks and civic spaces, that serves and supports the character of existing neighborhoods; with a focus on the replacement of small single-family affordable homes that have been bought and demolished under the Burlington International Airport's "Property Acquisition Plan" in association with its adopted Noise Compatibility Program.

Objective 45. Create transitions from the Burlington International Airport in areas identified for redevelopment that serve or buffer nearby neighborhoods; establish a community vision for the future of this area.

Objective 46. Continue to support the voluntary sale and relocation of eligible noise-affected homes and households, and other context-sensitive noise mitigation measures in neighborhoods adjacent to the Burlington International Airport.

Objective 47. Ensure continued compatibility of university and college campus land uses with existing development and conservation patterns.

Northwest Quadrant Strategies

Strategy 104. Refine the City's Land Development Regulations to allow for appropriately-scaled renovation of existing homes and infill development.

Strategy 105. Review the city's Land Development Regulations to encourage or require development along Kennedy Drive to include significant landscaping and/or forested blocks along the roadway in keeping with existing patterns of development.

Strategy 106. Strive to protect existing neighborhoods from incompatible commercial encroachment and traffic disruption through the Land Development Regulations.

Strategy 107. Maintain the section of Williston Road between Cottage Grove Avenue and Victory Drive as a residential corridor.

Strategy 108. Complete Chamberline Neighborhood Airport Planning poject and revise the Comprehensive Plan with goals and vision for the future.

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Northeast Quadrant

Areas Included. The Northeast Quadrant includes a substantial portion of the city, stretching from the Ethan Allen Industrial Park east of Lime Kiln Road to I-89. It includes the Burlington International Airport, the eastern portion of Williston Road, Technology Park, Tilley Drive, and bears a close relationship to land uses on the south side of I-89 along Meadowland Drive and Hinesburg Road.

Current Land Use. Present use of land in the Northeast Quadrant is predominately employment-based, with an emphasis on light industry north of the Airport, business-supply retail along Williston Road, offices along Kimball Avenue and Community Drive, medical facilities along Tilley Drive, and a range of uses along Meadowland Drive and Hinesburg Road. Southern sections of this Quadrant include a mix of open land and businesses. In the center of the Quadrant is the Burlington International Airport, which includes commercial and private aviation facilities, Federal Military facilities, and airport-related businesses.

With the exception of the Airport, which serves as a transportation hub, much of the remainder of the quadrant is automobile dependent. Recent upgrades in bus service from the Chittenden County Transit Authority have enhanced alternatives along Williston Road and provided limited service to Community Drive, but in general the land use pattern and transportation infrastructure relies on the vehicular transportation. Recreation paths have supplemented this network in the Community Drive and Tilley Drive areas.

As noted above, the southern portion of the Quadrant includes a handful of relatively large properties that remain as open land but which are zoned as Industrial-Open Space and Mixed Industrial and Commercial in the vicinity of Hinesburg Road and Kimball Ave, respectively. The Industrial-Open Space zoning district was designed to provide land for high-quality, large-lot industries and offices whose buildings and operations are consistent with a location in an environmentally healthy and visually sensitive area adjacent to residential neighborhoods. The Lane Press, Dynapower, Verizon, CBA and several other businesses all operate within the IO district.

The Quadrant also includes a handful of residential areas, notably the Country Club Estates neighborhood north of the airport, two small neighborhoods along Shunpike Road and Millham Court, and the historically rural stretch of homes along Old Farm Road.

Agricultural and open space activities also continue to play a role in the Quadrant, notably at the northern end of the city, along the Winooski River floodplain, along the Muddy Brook, and on both sides of Old Farm Road.

Future Land Use. The pattern of land use and development in the Northeast Quadrant has focused on businesses which require larger properties, can be compatible with the operations of an airport, and/or which may not be easily compatible with residential areas. Future use of land in developed areas should continue to focus on employers and development that is compatible with operations of the nearby airport. It should also continue to emphasize uses that are less compatible with the core of the city. In addition, future re-development should make use of improved transit services where available.

Areas within the 100- and 500-year floodplain should continue to be kept free from development. Agricultural and recreational activities in these areas should be encouraged.

Residential areas within the Quadrant – such as Country Club Estates, Shunpike Road, and Millham Court, should be reinforced as residential and supported.

The area immediately adjacent to I-89 is presently partially developed. This area should continue to balance the conservation of natural resources and open space – including the Muddy Brook and tributaries to the Potash Brook and – with employment opportunities.

An important consideration for the future land use within this area is the potential for a new Interstate interchange ("12B") in the vicinity of Hinesburg Road. With an interchange, properties would gain substantially improved access; with no interchange, the overall capacity of the area could be limited. The city should consider the appropriate land development regulations in this area in consideration of its decisions related to any future interstate interchanges.

More generally, transportation infrastructure is an important element to the future use of land in this area. Present infrastructure consists primarily of Hinesburg Road, Kimball Avenue, Airport Parkway, and Williston Road. Map **** includes a series of projected improvements related to transportation in the area, designed to improve connectivity and safety and to meet future anticipated traffic needs.

Key Planning Issues. Key planning issues in the Northeast Quadrant include:

- **Integrated Development.** There is an opportunity on the lands nearest Kimball Avenue/Old Farm Road/ Kennedy Drive to include compact, resideantial housing, transitioning to mixed user employment nearest Technology Park. For this integrated, mixed development to be successful, it should

be walkable, with integrated services, open spaces, offering recreational and agricultural opportunities.

- **Warehousing.** Recently, there have been significant concerns about the suitability of this quadrant for warehousing, particularly in areas adjacent to existing residential neighborhoods. While this area is close to the Airport and the planned highway interchange at Route 116 and I-89, the noise and visual impacts associated with truck traffic are potentially very disruptive to residential neighborhoods. This issue has been discussed during the SEQ Concept Plan; among the ideas evaluated were the creation of a warehousing sub-district adjacent to the Interstate. In any case, there was strong consensus that the zoning regulations for the IO district regarding warehousing should be re-evaluated.

  The area off Williston Road has experienced significant growth over the last 20 years in corporate headquarters, general office and industrial use. A sleeve under I-89 has allowed the extension of public sewer facilities to industrial lots south of the interstate including Verizon, Lane Press and Dynapower. Areas adjacent to the 535 acre Burlington International Airport in the northeast section of the city contain airport-related and other industrial uses and may continue to be developed for those purposes. Several industrial parks contained in this area include the Muddy Brook Industrial Park, Gregory and Daughters Park, Greentree Park, Technology Park and the Ethan Allen Farm Industrial Park.

- **Transportation Network and Traffic.** The transportation network serving the Northeast Quadrant is somewhat underdeveloped. Access to the area is available chiefly along Williston Road from Burlington and Williston, along Kennedy Drive, and for the northern portion of the Quadrant, along Lime Kiln Road. The result has been limited truck access to the area. In addition, internal connections are limited.

  The Airport master plan, revised in 2011, projects a doubling of passengers in the next twenty years. This will place additional pressure on the existing road network, much of which is abutted by single and two family homes.

  Map *** identifies potential improvements which can relieve some of this pressure. A more detailed planning effort will need to be completed in order to develop a comprehensive solution to the transportation and other impacts of the Airport on adjacent areas.

- **Balance of Industry and Open Space.** Current zoning at the south end of this Quadrant seeks to meet both open space and industrial objectives. The area is home to both the Muddy Brook and one of the principal tributaries to the Potash Brook, and has high visibility from I-89 and Old Farm Road. It is also highly visible from the Interstate.

  The regulations in force for this area should be evaluated in more detail to assess how best to meet the overall objectives of this Plan.

- **Support Services to Existing Business.** Following the establishment of several employment centers within this Quadrant – particularly at its southern extremities – there has been increased demand for support services such as restaurants and child care facilities in the area.

  The Planning Commission should evaluate how best to allow for support services to area employment centers while retaining the focus of retail and restaurant services in the Central District and Southwest Quadrant.

- **Types of Development / Balance with Central District.** The intent of the Northeast Quadrant is to provide opportunities for employers in need of larger amounts of space and which are compatible with the operation of the airport. It is important, however, for this quadrant not to compete with the Central District and City Center.

Transition Areas. Northeast Quadrant transition areas include:

- **Southeast Quadrant.** The interface of the Southeast and Northeast Quadrants forms an important bridge between areas of higher and lower intensity. These areas converge south of I-89 and along Hinesburg Road. The city's land development regulations should be evaluated to assess the transition between these areas.

- **Adjacent Residential Areas.** The Northeast Quadrant comes into contact with residential neighborhoods in a handful of key places, notably to the west and northeast of the Burlington International Airport, and with the handful of residential pockets within the Quadrant itself. Sufficient transitions tools – in the form of lower intensity uses, buffering, or screening – should be provided to foster the continued compatibility of these areas. The same holds for undeveloped areas to the east of Old Farm Road.

Northeast Quadrant Objectives

Objective 48. Provide opportunities for employers and employment with in need of larger amounts of space and which are compatible with the operation of the airport without creating competition with City Center.

Objective 49. Provide a balanced mix of recreation, resource conservation, and business park opportunities in the south end of the Quadrant, to include the conservation of open space resources, including riparian corridors along the tributaries of Muddy Brook and Potash Brook.

Northeast Quadrant Strategies

Strategy 109. Complete an analysis and determine whether to pursue a potential interstate interchange serving the area; revisit the city's Land Development Regulations to ensure that the future transportation network and future development potential of the area are consistent with one another.

Strategy 110. Review the city's Land Development Regulations so that land uses within the Quadrant remain consistent with the continued operation of the airport.

Strategy 111. Promote business use along Williston Road that makes use of available transit services.

Strategy 112. Promote the effective transition from rural residential and agricultural land uses along old Farm Road to more dense housing and mixed uses in highly serviced areas along Kennedy Drive and Kimball Ave. Such transition should incorporate interconnected greenways and forested open space.

Strategy 113. Encourage well planned, clustered, compact and infill business park development that integrates contiguous open space areas in business park design.

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Southwest Quadrant

Areas Included. The Southwest Quadrant includes the entire Shelburne Road corridor as well as several neighborhoods on either side. It stretches from Lake Champlain on the west side, including Red Rocks Park and Queen City Park, Bartlett Bay, and Holmes Road neighborhoods, to Spear Street on the east side, including Swift Street, Allen Road, the Orchards, and Stonehedge, among others.

Current Land Use. The Southwest Quadrant is a diverse area of the city which includes several distinct – and, in some cases commingled – land uses. They include several long standing single- and multi-family neighborhoods, natural areas fronting Lake Champlain, light industrial areas, and commercial areas. The area is served primarily by Shelburne Road, but is also served by an active railway that parallels Shelburne Road.

The lakeward side of this quadrant includes several small residential neighborhoods - the Bartlett Bay area, Holmes Road area, Queen City Park and the Landings. Each of these include properties with lakefront access. Immediately adjacent to the Queen City Park neighborhood is Red Rocks Park, a 100-acre city-owned park with 4,700 feet of lake frontage. Only 700 feet of beach give access to the waters of the lake, since most of the park is on an elevated rocky promontory. The remainder of the lakefront property consists of private residential properties, including a handful of large lots. Bartlett Brook and Potash Brook join Lake Champlain in this area.

The Shelburne Road corridor consists predominantly of commercial uses, however, residential and industrial uses are mixed throughout the area. The roadway itself serves as the main-north-south arterial through the State. A railway runs parallel to the road and serves as an approximate divider between the lakeward portion of the Quadrant and the Shelburne Road section. In recent years, the north end of the corridor has seen significant redevelopment, in the form of mixed use housing and offices in the Farrell Street area. This area, well served by transit, retail, employment, and emergency

services, won a Smart Growth award and is undergoing the final phases of redevelopment today.

To the east of Shelburne Road are several residential, mixed-use, natural, and park areas. The Orchards neighborhood was the first large-scale development to take place in the area, beginning in the 1950s. Subsequently, commercial enterprises blossomed along the length of Shelburne Road, with additional neighborhoods being added over time. South of the Orchards is the University of Vermont's Horticultural Farm, a research facility and community focal point. North and east of the Orchards are two municipal parks, Szymanski and Farrell.

Two community parks are located in this area: Farrell Park and Szymanski Park. Both provide amenities for local residents; Farrell Park additionally provides ballfields for wider use. These parks are further enhanced by East Woods, a permanently conserved parcel with walking trails open to the public, owned by the University of Vermont.

Towards the north end of the Quadrant, Swift Street is home to mix of homes and businesses and serves as the principal roadway connection to Spear Street. At the south end of the Quadrant, Allen Road serves as the other principal connector and serves a mix of residential, commercial, and industrial uses.

Along Spear Street – the eastern boundary of the Quadrant – single family homes fronting the street itself are accompanied by several residential neighborhoods of single and multi-family homes accessed from Cedar Glen Road, Pheasant Way, and Deerfield Ave. The City-owned Overlook Park sites at the corner of Deerfield Ave and Spear Street.

The Quadrant is generally well served by public transit, recreation paths, and services for residents, though areas along Spear Street are somewhat distanced in some cases and street connectivity is limited.

Future Land Use. The Shelburne Road corridor portion of the Quadrant is generally already developed with commercial and mixed use establishments, with the exception of some land reserved by private developers between the Lowe's/ Hannafords' area and Shelburne Road. Therefore, growth will occur primarily as infill or conversion development. The city encourages mixed-use development in and along the corridor (e.g. mixed residential/commercial or mixed retail/office/restaurant) to encourage pedestrian movement, use of public transportation services, and shared parking opportunities. Retail uses in the corridor are intended to meet both local and regional shopping and employment needs.

While the entire corridor is planned for some mixing of uses, there are several subsections within it. The north end of the corridor in South Burlington has seen the most significant redevelopment to date and now includes several newer multi-family buildings amongst commercial areas. Future redevelopment in this area should be consistent with the pattern established by this development and by the single and two- family home neighborhood behind parts of it.

South of I-189, the east side of the road includes the well-established Orchard neighborhood as well as a series of relatively small commercial lots fronting on Shelburne Road. Continued reuse and redevelopment of these commercial areas should enhance pedestrian connectivity to residential areas while at the same time protecting them from encroachment. The west side of the road includes significantly larger lots and some existing multi-family housing. Mixed use development and redevelopment is encouraged in this area.

South of IDX Drive, the Shelburne Road corridor become predominately commercial on both sides of Shelburne Road, with collector streets leading to residential neighborhoods. These area should be encouraged for infill development and redevelopment, with a continued focus on business opportunities.

In the lakefront portion of the Quadrant, residential and open spaces uses should continue to predominate, with opportunities for public access to the Lake. A recreation path should be established along the length of Lake Champlain in this area, and the addition of a second public park should be considered to complement Red Rocks Park.

East of the Shelburne Road corridor, future land use should remain principally residential, with the exception of the western ends of Swift Street and Allen Road. Future development should be encouraged to establish a consistent scale and transition from commercial to residential areas. Additionally, care must be taken to maintain and improve stormwater runoff in these areas, particularly in areas of steeper slopes.

Key Planning Issues. Key planning issues in the Southwest Quadrant include:

- **Balance of Local and Regional Traffic.** Shelburne Road (also known as US Route 7) is the primary north-south travel route along Vermont's western corridor. As such, its traffic and use will remain both regional and local. These two purposes can be in conflict with one another, especially as it relates to pedestrian crossings and signal timing for cross-streets.

  The city supports the continued implementation of pedestrian crossings at intersections and has promoted the development of a parallel route, Fayette Drive, to serve local needs for access in support of Shelburne Road.

- **Conservation and Lakefront Access.** Several large properties remains along the border of Lake Champlain. In consideration of the future potential of these properties, the city should explore opportunities for public access to the Lake and/or conservation of identified and connected natural resources in the area.

- **Railway.** The presence of the rail line in this district provides a significant long-term opportunity for the city. At present, the rail line has limited commercial use, and carries no passengers. Opportunities for passenger use, however, are under exploration at the state and Federal levels, including the connections of Burlington to Middlebury, Rutland, Bennington and Albany.

Future land use in this area should take care to both continue to reserve space for direct rail access by some commercial properties, and to ensure that adjacent development is designed in such as way as to minimize the visual, noise, and other effects of a nearby railway line.

Transition Areas. Southwest Quadrant transition areas include:

- **Safe and Inviting Access to Shelburne Road from Adjacent Neighborhoods.** Despite it proximity to residential neighborhoods to the east and west, some development along Shelburne Road is not designed to encourage pedestrian access from these areas. Future development and re-development along Shelburne Road should accommodate both local and regional users.

Southwest Quadrant Objectives

Objective 50. Promote higher-density, mixed use development and redevelopment along Shelburne Road.

Objective 51. Maintain Shelburne Road as a roadway for both regional and local circulation.

Objective 52. Improve local neighborhood connections on the east and west sides of the Shelburne Road corridor.

Objective 53. Promote and expand public access to Lake Champlain.

Objective 54. Support the ongoing agricultural use of the University of Vermont's Horticultural Farm and its other agricultural properties.

Objective 55. Provide for the continued viability and use of the Vermont Railway line while supporting the viability of residential neighborhoods.

Southwest Quadrant Strategies

Strategy 114. Encourage future development on the west side of the Vermont Railway line to make use of public crossings.

Strategy 115. Review the city's Land Development Regulations in key transition areas: between the Southwest and Southeast Quadrants; between Swift Street and adjacent areas; between Allen Road and adjacent areas

Strategy 116. Explore opportunities to create one or more "nodes" of concentrated development and public activity along the Shelburne Road corridor;

Strategy 117. Continue to foster principally residential and open space throughout the lakeward portion of the Quadrant; explore opportunities for compatible non-residential uses along the railway and the potential for a mixed-use waterfront.

Southeast Quadrant

The development and ultimate land use pattern in the Southeast Quadrant of South Burlington is of critical importance to South Burlington's future. Creating a balance between housing, complimentary land uses, and conservation, especially conservation of key natural communities and habitat features, will happen through continuous planning, public involvement, and the thoughtful use of the city's land acquisition funds and regulatory tools.

From 2001 through 2005, the Planning Commission embarked on a series of studies and plans that underpin this section of the plan. The findings and goals of the Open Space Strategy (2002), Ecological Assessment (2004), Bird Habitat Study (2004), and SEQ Concept Plan (2005), are embodied in the goals and objectives of this plan. Implementing these goals and objectives will ensure that the SEQ becomes a vibrant, ecologically healthy district over the long term. These studies and plans are incorporated into this plan by reference.

Land Use Setting. The Southeast Quadrant (SEQ) comprises 3,900 acres or 37% of South Burlington's land area, and is the focus of much of the city's future land use planning and land conservation effort. For purposes of this chapter, the SEQ is bounded by Spear Street to the west, Interstate 89 to the north, the Muddy Brook to the east, and the Shelburne town line to the south. It includes all of the Southeast Quadrant zoning district, and portions of the Industrial-Open Space, Parks and Recreation, and Residential-2 zoning districts. Much of the SEQ still has a rural-agricultural atmosphere and there are magnificent views of the Green Mountains, Lake Champlain and the Adirondacks.

The SEQ, which has developed and changed substantially since the early 1990s, has a remarkable variety of land uses. It remains South Burlington's least developed and most open land use district. It is home to several significant natural areas, such as the Great Swamp and Cheese Factory Swamp, which include areas with largely intact natural communities; a patchwork of hay fields, pastures and early successional "old fields" reflecting the area's agricultural heritage; and several of the city's largest stands of hardwoods. It is also home to the Vermont National Country Club and roughly 900 homes, with another 600 homes in various stages of permitting.

Dorset Park, located at the district's far northwest end, is now home to two ice rinks and the city's largest concentration of recreation fields. Dorset Park has become an important community gathering place for the entire city, with its constant flow of activity and hub of recreation path connections.

Commercial uses in the residential portions of the Southeast Quadrant have declined in recent years, particularly with the closing of the area's last dairy farm in 2004. The Chittenden Cider Mill, however, continues its retail operations and is a well-known landmark and neighborhood store. Larger-scale commercial and light industrial uses in the far northwest of the district, within the Industrial-Open Space district, include

Verizon, CBA, Dynapower, the Lane Press, and more recent office construction. The Ireland Quarry continues operations along the interstate near the Muddy Brook.

Natural Resources Setting. The SEQ's natural resources are among the city's finest environmental assets. Marked by a pair of distinct north-south ridges between Spear and Dorset Streets, and between Dorset Street and Hinesburg Road, the SEQ also contains the headwaters of Shelburne Pond, Monroe Brook, Bartlett Brook and Potash Brook, and a large swath of the Muddy Brook basin. These resources, particularly the natural communities, were documented in the 2004 report "Wildlife and Natural Communities Assessment of the Southeast Quadrant, South Burlington, Vermont" by Arrowwood Environmental (the "SEQ Assessment").

The six focus areas defined in the SEQ Assessment are summarized below, along with descriptions of other important natural resource characteristics of the SEQ:

- **Soils.** The SEQ's soils are characterized by a shallow depth to groundwater and moderate permeability, with many rock outcrops found throughout the area. The soil types are chiefly Vergennes and Covington clays with gentle slopes, which are classified as having moderately high agricultural potential.

- **Ridges and Watersheds.** Two north-south ridges define the watersheds in the SEQ. The first begins at Dorset Park, south of the interstate between Dorset Street and Hinesburg Road, and heads south to the city line. Water falling to the west of this ridge goes into Lake Champlain via Bartlett Brook and North Brook. The second ridge roughly parallels Hinesburg Road, and continues south to the city line. Water falling east of this ridge feeds into Muddy Brook and flows north to the Winooski River.

- **Natural Communities and Habitat Areas.** Within the SEQ, the SEQ Assessment determined that there are six distinct groupings of natural features that form unique habitat areas, each with different resource, aesthetic, and habitat values. These sub-areas, and their key values, are summarized below:

- **Muddy Brook Corridor.** The Muddy Brook corridor at the northeastern end of the SEQ includes the brook, its surrounding wetlands, and adjacent upland forest and early successional agricultural fields. The area has a high vegetative diversity, which along with the brook helps support habitat for a variety of wildlife including mink, muskrat, herons and fish. Noted natural community areas associated with the corridor include the Dubois Swamp, a flooded red maple-black ash swamp, and the Van Sicklen Woods, a 12-acre clay plain forest.

    1. **Muddy Brook Basin.** The Muddy Brook Basin in the southeastern corner of the SEQ includes the brook, its associated wetlands, the adjacent farm fields and pastures, and nearby small woodlots. Field visits during the SEQ Assessment found evidence that this area is used by gray and red fox, mink, river otter, muskrat, and coyote, as well as by many hydrophilic birds. Ecologically, this area extends well beyond South Burlington into the adjacent areas of Williston, Shelburne and St. George.

2. **The Great Swamp.** The Great Swamp area is centered on a hardwood swamp on the ridge east of Spear Street. It includes upland forests, shrubby successional fields, and wetlands. The large Red Maple-Black Ash swamp, which is notable among other features for the lack of invasive species present within it, appears to be the "Higbee Swamp" that is referred to in a variety of historical scientific collections at the University of Vermont. Five rare plant species were found in this swamp near the turn of the last century. While these species are not likely to have persisted, the Great Swamp is perhaps the most intact and important natural community area within South Burlington.

3. **Spear Street Frontage.** The area east of Spear Street and west of the Great Swamp is a mix of small wooded areas, old agricultural fields, and shrubby and emergent wetlands. This area's key significance is that it acts as an ecological buffer between the Great Swamp and the more developed areas to the west.

4. **The Bowl.** This area, in the south-central portion of the SEQ, contains some of the most substantial concentrations of wetland and wildlife resources in the SEQ and has been the focus of the city's land conservation efforts since 2002. The large wetland complex called the "Cheese Factory Swamp" straddling Cheese Factory Road, and the mixed hardwood communities just north and west of the swamp, are key parts of this area. Field inventories during the SEQ Assessment found signs that the area is home to bobcat, gray and red fox, coyote, wild turkey, and numerous other animal and bird species.

5. **Wheeler Nature Park and Associated Lands.** The city-owned Wheeler Nature Park property just north of the SEQ zoning boundary was found during the SEQ Assessment to be an important haven for wildlife. It is comprised of a series of open spaces and small woodlots on the golf course, and other nearby properties, along with some old field areas and wetlands. The diverse combination and proximity of different wetlands, streams, hardwood forest, and old field areas makes this an important "cluster" of features that act as wildlife habitat.

- **Views.** The SEQ affords some of the city's most scenic views of the Adirondacks, Camel's Hump and the ridges and valleys stretching south to Shelburne Pond. The city has protected what are deemed to be the most important public views from existing and proposed public properties through the View Protection Overlay Zone (VPZ). Other significant views have been evaluated through the SEQ Concept Plan and most recently the 2014 South Burlington Open Space Report. Areas that should be protected through height and site plan standards in the city's land use regulations and design guidelines have been identified.

- **Historic and Cultural Resources.** The SEQ contains many remnants of the city's agricultural heritage, including old barns, stone walls, hedgerows, and some of the city's very few structures eligible for listing on the National Register of Historic Places. The Old Stone House at the corner of Hinesburg and Van Sicklen Roads was renovated recently, greatly enhancing the visual

quality of Van Sicklen Road. Conservation and adaptive re-use of these structures is important and should be encouraged where possible; staff assistance in seeking grant funding can be an important way of accomplishing this goal. Allowing an expanded use of the Chittenden Cider Mill is intended, in part, to ensure longer-term preservation of the building as a historic and cultural resource.

Residential Land Uses in the SEQ. The past 10 years have seen a great deal of housing development in the SEQ and adjacent areas, ranging from large single-family houses to more densely-developed triplex units. The past five years have seen a marked trend towards duplex and smaller single-family units in the SEQ, where previously larger single-family homes made up most of the new housing supply.

Developments proposed during the SEQ planning process were showing a change back towards more single-family units. The lack of new single-family housing in Chittenden County was leading developers to propose more single-family housing and more new types of single-family, such as smaller "cottage" homes.

Residential Development Patterns and Densities. With the exception of a few very small subdivisions, new housing built in the SEQ since 1992 has been built under the zoning provisions that allow for an overall density of 1.2 housing units per acre, with the units built in a clustered manner at 4 housing units per acre. This clustering option has created a pronounced change in site development patterns, away from the standard, larger-lot developments like Butler Farms, Oak Creek or Ledge Knoll to a more compact pattern exemplified in Stonehouse Village.

With the completion of the SEQ planning process, there has been a strong interest in building neighborhoods at higher densities in order to conserve more of the SEQ's priority open space lands. The city's land use regulations do provide for the transfer of development rights between non-contiguous parcels. The SEQ Concept Plan was charged with evaluating whether and how to adjust the "sending" and "receiving" densities within the regulations to provide more incentive for this type of transfer to happen.

Affordable Housing in the SEQ. South Burlington's Comprehensive Plan recognizes that while the city has been a leader in the provision of affordable housing, very little has been built in the SEQ relative to other areas of the city. The very high cost of land in the SEQ, and the lack of access to public transit, and distance from available services, have limited the introduction of affordable housing into the SEQ. Nonetheless, affordable ownership units were included in Dorset Farms, and are included in the proposed South Village project as well. The SEQ Concept Plan has evaluated how increased "buildable" densities might increase the opportunity for affordable housing as well.

Non-Residential Land Uses in the SEQ. While predominantly residential, the SEQ district also includes many non-residential land uses. These are found chiefly in the Industrial-Open Space (IO) Zoning District at the northeastern edge of the SEQ, but are also found at the Chittenden Cider Mill on Dorset Street, but throughout

the district is a scattering of churches, schools, recreation areas, and home-based businesses.

Industrial Open Space District. The Industrial-Open Space zoning district was intended originally to provide land for high-quality, large-lot industries and offices whose buildings and operations are consistent with a location in an environmentally healthy and visually sensitive area adjacent to residential neighborhoods. Recently, there have been significant concerns about the suitability of this district for uses such as warehousing that generate significant truck traffic.

Institutional Land Uses. Institutional uses in the SEQ are varied and provide important visual focal points within this district. These uses include four churches, all located at the north end of the SEQ near the interstate. A private elementary school, The Schoolhouse, is located on one of the out-parcels near the Dorset Farms subdivision, and the plans pending for South Village include a site for a private school along Spear Street.

The city's land uses in the district center on recreation and open space. Dorset Park is the city's main active recreation center and is located adjacent to the 100-acre Wheeler Nature Park. A network of unpaved walking paths has been developed through the Recreation Path Committee. Most recently, the city added the 40-acre Scott property in the center of the SEQ to its recreation lands.

The Vermont National Country Club. One of the most prominent features of the SEQ is the Vermont National Country Club, which began construction in 1996 and continues developing today. This 450-acre complex straddles Dorset Street and extends from Swift Street south to Nowland Farm Road. It includes 264 residential units, an 18-hole golf course that draws players from throughout Vermont, and a clubhouse complex overlooking the swath of wetlands and golf course stretching southwest from the ridge near Dorset Park. Development of this large and very visible section of the SEQ as a golf course has helped to keep wetland areas and some very attractive views open, but has also raised concerns and legal conflicts relating to the location of some associated residential areas.

Retail and Services in the SEQ. The sole remaining retail and service use in the SEQ is the Chittenden Cider Mill, which includes retail and a small-scale auto repair facility. It functions today as a local landmark and gathering spot for the SEQ. In light of the growth that has taken place and been proposed in the SEQ, the Planning Commission has carefully considered the need for retail services first articulated in the 2001 Comprehensive Plan. From both public input and the analysis performed in the SEQ Concept Plan, it is clear that there has been sufficient population growth to warrant creation of a small retail and service sub-district in the SEQ. Such a district must be limited in size and type, respect and contribute to the quality of the surrounding neighborhoods, and utilize design features that contribute to the traditional, Vermont vernacular that characterizes the visual quality of the SEQ.

Agricultural Lands and Land Uses. Agricultural operations, from hay fields to dairy farming, have shaped the SEQ's landscape over the past two centuries and contributed

greatly to its natural beauty. It has become clear that the economic prospects for traditional, larger-scale farming, especially dairy farming, have faded in the SEQ. The last two herds of dairy cows in the SEQ were sold in 2003 and 2004, leaving only hay fields and other limited operations in business. The planning discussion has shifted to new and emerging forms of agriculture that can thrive even in a suburbanizing environment.

A number of agricultural uses are continuing, however, in the SEQ and in adjacent areas of Shelburne. The Scott property conservation easement allows for continued haying and agricultural use. More recently, a proposal was submitted by the Intervale Foundation and Retrovest Companies to establish an organic farm as part of the new South Village subdivision off of Spear Street. This type of farming use, as well as the community gardens found on Spear Street on the University of Vermont Wheelock Farm, can be an important part of the SEQ's visual character, quality of life and environmental health into the future.

Recreation Facilities in the Southeast Quadrant. It is clear that the population and housing growth in the SEQ will increase the need for recreation and open space opportunities, and the need for the city and developers to provide for these needs as development occurs.

Developed Recreation Areas. Veternas Memorial Park, with 220 acres of land, playing fields, playground equipment, and two hockey rinks, is one of South Burlington's "crown jewels" and a major community gathering place. It functions as a city-wide facility, but also as a neighborhood park for SEQ residents and, along with the Wheeler Nature Park, the "green lungs" of the City Center.

The very heavy scheduled use of Dorset Park's playing fields indicates that the park's capacity for providing active recreation space has been reached. Thus it is recognized in this plan, and detailed in the Recreation chapter, that the anticipated housing growth in the SEQ (including projects built since 2001 and those undergoing review) will necessitate acquisition of additional lands for active and passive recreation, as well as continued expansion of the recreation path system, to ensure that there are sufficient recreation areas within walking or biking distance of all SEQ neighborhoods. A near-term focus should be on providing new opportunities for active recreation, including soccer/playing fields and playground equipment.

Recreation Paths. The SEQ is increasingly well-served by recreation paths, and all new developments have incorporated extensive public recreation paths in their designs. In the summer of 2004, a section of the path was built on the east side of Dorset Street stretching north from Midland Avenue. This will eventually connect to the new Chittenden Cider Mill development, forming a link all the way from the City Center to Midland Avenue. Construction of the South Village project eventually will provide a loop from Dorset to Spear Street.

The Recreation Path Committee has identified five priority improvements within or directly related to the SEQ district as its priorities for the area: (1) completing the path from Dorset Farms to Nowland Farm Road; (2) completing the connector from

Midland Avenue to Allen Road and Spear Street through the South Village project; (3) extension of the path from Spear Street and Allen Road to Shelburne Road; (4) completing a path on the west side of Dorset Street from Swift Street north to the United Methodist Church; and (5) constructing a path along Van Sicklen Road from the Muddy Brook to the existing path terminus on Old Cross Road.

Natural Areas. The 100-acre Wheeler Nature Park is the city's largest natural area. This property includes areas of hardwood forest, ledge, and wetlands, and has been documented as one of the most important areas of wildlife habitat in the city. The city intends to maintain this as a natural area, with unpaved walking trails the only type of improvement to be constructed within the property.

The 2007 conservation of the Scott property provided a much-needed addition to the city's inventory of natural lands. It will be available for low-impact, non-motorized recreation activities such as hiking, biking and skiing. The Open Space Strategy focused on this area, "The Bowl," as a critical area of the SEQ for further natural area conservation. Ideally, a conserved network of natural areas and farmland with public walking paths will be created extending south to Shelburne Pond.

Public Safety. As development increases in the SEQ, and as decisions are made regarding the new public safety facility, the city must monitor the need for substations in the SEQ. Any new public building in the SEQ should include space for public meetings, as this has been sorely lacking in the SEQ.

Transportation Network. The provision of an integrated network of roadways, recreation paths, sidewalks and walking trails that balances the needs of SEQ residents, the city as a whole, and the city's natural environment is an ongoing challenge that requires thoughtful discussion, planning, and technical assistance. While automobile transportation will be the chief mode of moving through and around the SEQ for the foreseeable future, the city must recognize and plan for all modes of travel in a balanced way.

The main north-south routes through the SEQ have very different functions.

Spear Street acts as a quasi-rural corridor carrying substantial amounts of commuter traffic northbound into Burlington each morning. This has created difficulties for the local traffic, particularly the houses with driveways on Spear Street, between Allen Road and Swift Street. The corridor's open character is protected in some stretches by the University of Vermont's farm and natural area lands that flank the road in parts of South Burlington, particularly north of Swift Street through to Williston Road.

The recent Spear Street Corridor Study, completed in 2004, provided the city with a detailed series of recommended improvements intended to maintain Spear Street as a hybrid local and collector road that is able to carry the through traffic demand without creating a need for additional lanes. Citizens expressed a strong desire to keep Spear Street as a two-lane profile throughout South Burlington, while making improvements to the Spear and Swift intersection and providing better recreation path connections throughout.

Dorset Street functions more as a local collector roadway and carries far less commuter or through traffic in the SEQ than do Spear Street and Hinesburg Road. Dorset Street is likely to be affected by increased volumes of local traffic as more development occurs, especially in the SEQ. The very visible presence of important local landmarks such as Dorset Park, the water tank, the Vermont National Country Club golf course and club house, and the Chittenden Cider Mill right on Dorset Street make Dorset Street very much the "main street" of South Burlington, both in the SEQ and farther north in the City Center.

These visual features make it appropriate to bring new housing and other uses closer to Dorset Street, especially in the area south of Old Cross Road as identified in the SEQ Concept Plan, and to ensure that its profile enhances its use as a local "main street." This will require careful design review to ensure that new development contributes to the attractive visual quality that has been developing along Dorset Street.

Hinesburg Road (Vermont Route 116) is an important regional transportation corridor that carries an increasing amount of through traffic, including trucks, from Addison and southern Chittenden County north to Williston, South Burlington and Burlington.

The State has begun the formal scoping process, with the full support of Williston and South Burlington, for a full interchange at Hinesburg Road and Interstate 89. This is expected to reduce the use of Van Sicklen Road as a cut-over to Exit 12 in Williston, provide more direct airport access, and service the truck demand from the industrial parks north and south of the Interstate in both communities. And, while essential to the regional economy, the interchange will lead to increased through traffic on Route 116. Therefore, careful provisions for recreation path and pedestrian crossings and strict limits on new curb cuts through this corridor are essential.

East-West and Neighborhood Connector Roads: One of the most difficult issues for South Burlington has been the provision of east-west connector roads between Spear Street, Dorset Street, and Hinesburg Road, and provision of connections between adjacent subdivisions.

Despite the fact that a network of east-west roads has been shown on the city's Official Map and included in the Comprehensive Plan for over 40 years, at the present time, the only full connection between the north-south roads in the SEQ is Cheese Factory Road. Nowland Farm Road terminates at Dorset Heights; Swift Street terminates at the Village at Dorset Park; and Midland Avenue terminates within Dorset Farms.

The lack of east-west roadways means, effectively, that the SEQ presently has over 1,000 housing units and regional traffic moving through a farming community's roadway network. The lack of east-west connections increases travel times and miles traveled between, for example, Butler Farms and Dorset Park, or Dorset Farms and Shelburne Road. When east-west and neighborhood connector roads are lacking, school bus routes and emergency service responses also are lengthened, and there is less physical connectivity between neighborhoods, creating an isolating development, transportation, infrastructure and social network in the SEQ.

The flip side of this discussion relates to the potential environmental impacts of new roadways on wetlands and other environmental resources, and the desire of many residents to have as little "through traffic" as possible able to drive through their neighborhoods. Proposed roadway connections between new and existing neighborhoods are a frequent source of conflict in the development review process, and, unfortunately, the DRB has in some cases allowed one-way or "emergency only" roadways as a way to allow projects to proceed.

Also, wetland regulations are often interpreted in a manner that considers connector roads an "unnecessary impact" or an easy way to reduce wetland impacts. This interpretation is often self-defeating from an environmental perspective, since it leads to greater vehicle miles traveled by new residents when neighborhoods do not connect to other neighborhoods and the street network.

One key issue where there has been increasing agreement on all sides is the need to design east-west and neighborhood connector roads with narrower profiles and other environmental design features, such as box or open-bottom culverts instead of pipes for wetland and stream crossings, narrower road profiles (especially at crossing points), wildlife-friendly landscaping, and other traffic-calming features. These approaches, which can be incorporated with the city's public service and roadway maintenance practices, should become "standard operating procedure" for new development in the SEQ.

With these issues in mind, the Planning Commission evaluated the planned cross-town roads on the Official Map in 2003 and proposed a series of amendments that were adopted by City Council in December, 2003. Based on projected population and traffic growth, the Open Space Strategy, and public input, the new Official Map reaffirms the planned extensions of Swift Street through to Hinesburg Road; Midland Avenue through to Spear Street; Old Cross Road between Dorset Street and Hinesburg Road; and a connection between the proposed Marceau Meadows and Chittenden Cider Mill subdivisions. The new Official Map does NOT include the north-south and east-west proposed roads throughout "The Bowl" that had been proposed for decades, including a connector road at Autumn Hill Road through the Scott Property. This Comprehensive Plan reaffirms that the remaining proposed roadways through the SEQ that are shown on the Official Map should be constructed.

Southeast Quadrant Objectives

Objective 56. Give priority to the conservation of contiguous and interconnected open space areas within this quadrant outside of those areas [districts, zones] specifically designated for development.

Objective 57. Maintain opportunities for traditional and emerging forms of agriculture that complement and help sustain a growing city, and maintain the productivity of South Burlington's remaining agricultural lands.

Objective 58. Enhance Dorset Street as the SEQ's "main street" with traffic calming techniques, streetscape improvements, safe interconnected pedestrian pathways and crossings, and a roadway profile suited to its intended local traffic function.

Objective 59. Develop a community consensus on the appropriate total development potential for the Southeast Quadrant.

Southeast Quadrant Strategies

Strategy 118. Take an active role, through cooperative planning and projects, policy discussions, zoning, and land conservation, in promoting new or revitalized agricultural and other open space uses in the SEQ that can be compatible with residential neighborhood and village center uses.

Strategy 119. Create a village center and green for the SEQ along Dorset Street south of Old Cross Road.

Strategy 120. Strongly discourage land use planning and permitting decisions to be based solely on the location of certain soil classes on individual parcels rather than overall planning and environmental goals. Participate in State proceedings to advance the City's position on open space, housing and agricultural use issues as they relate to soil classes.

Strategy 121. Maintain the present residential density of 1.2 dwelling units per gross acre of land as the basic limitation on the ultimate build out of the SEQ zoning district.

Strategy 122. Evaluate the allowable activities on the western portion of the Industrial-Open Space District and consider enabling the development of a residential neighborhood with density from transferred development rights from conserved properties in the SEQ.

Strategy 123. Revise the LDRs to ensure that all truck-intensive uses in the IO district are located a sufficient distance away from residentially-zoned lands to prevent adverse noise, air quality, light, and visual impacts.

Strategy 124. Review the general height limits and explore architectural design review to ensure that the proposed structures are consistent with the vernacular architectural styles and visual quality of the SEQ.

Strategy 125. Continue to work with Shelburne on strategies to create a conserved agricultural and natural area, with appropriate public access and paths, from Shelburne Pond and Pond Road north to the Chittenden Cider Mill, consistent with the goals of the Open Space Strategy.

Strategy 126. Work with the owners of major SEQ lands with agricultural use or potential to ensure the appropriate use of TDRs for land conservation, consistent with the objectives of this Plan, the SEQ Concept Plan and Open Space Strategy.

Strategy 127. Through the development review process, land conservation initiatives, and development of Zoning Map amendments for the SEQ, work towards the addition of supplemental conserved areas adjacent and connected to existing open space lands.

Strategy 128. Maintain measures in the LDRs and SEQ zoning map to ensure that open spaces in all developments affecting secondary natural areas be designed in a manner to ensure continued connectivity between other open spaces and the preservation of "stepping stone" or other pockets of important wildlife habitat.

Strategy 129. Consult the Arrowwood Environmental SEQ Environmental Assessment regarding environmental resources, conditions, and possible strategies for protecting wildlife habitat values through conservation, restoration and development.

D. Special Multi-District Issues

Several issues of land use cross the artificial designations of local planning areas and municipal boundaries. Three key themes – transportation / mixed use corridors, open spaces / wildlife corridors, and transition areas – are highlighted in the Future Land Use Map.

Core Area and Key Corridors Through Districts

Promoting continued infill development in the greater City Center district, Williston Road and Shelburne Road areas in a manner that is consistent with current or future transit use adds visual vitality, increases the commercial and residential options available to landowners and businesses, incorporates access management features such as shared parking and reduced curb cuts, and uses land efficiently.

Several key transportation corridors serve to both divide and stitch together and neighborhoods and land use districts throughout the city. These include, notably, Shelburne Road, Williston Road, and to a lesser extent, Dorset Street and Kennedy Drive.

Future land use along each of these corridors should emphasize not only the need for traffic flow, but also for cross connections and pedestrian access. The specific challenges and opportunities for resolution are unique to each of these corridors, but the broad need to have these corridors serve both localized and wider city-wide and regional needs is consistent.

In addition to providing transportation accessibility, these corridors provide opportunities for the city to advance multiple key goals related to efficient use of land, affordability, land conservation, and efficiency of municipal services. These goals can be advanced by supporting development and redevelopment patterns that focus on high quality, higher density land use than elsewhere in the city. Greater intensity of land uses along these corridors will provide greater use of transit along existing routes, relieve pressure for development in other areas of the city, provide residents with support services within walking distance. All of these will help support the overall affordability of housing in the area.

Open Spaces and Wildlife Corridors

South Burlington is connected together by multiple types of networks – streets, recreation paths, water and sewer infrastructure, and natural areas.

Land use includes planning for both conservation and development. For natural areas, connectivity is critically important. The city of South Burlington includes several natural corridors. In most cases, these relate closely to water features due to the increased wildlife activity that generally accompanies these features.

In South Burlington, the following natural areas corridors cross through the city. Some, such as those in the Southeast Quadrant and along parts of the Potash Brook's main reach, have been closely studied, while others have only been broadly identified.

- Southeast Quadrant Wildlife Corridors – see the Southeast Quadrant Detailed Chapter.
- Muddy Brook Corridor
- Bartlett Brook Corridor
- Centennial Brook Corridor
- Potash Brook and Red Rocks Park Corridor
- Winooski River Corridor

Solar Facility Siting

South Burlington recognizes that there may at times be competing goals. While the City supports the harnessing of renewable energy, particularly in the case of solar arrays, it must consider the impacts of such structures on open spaces and wildlife corridors. As such, this plan shall serve to provide guidance as to where the siting of such facilities should be avoided in favor of certain conservation areas:

- All Primary Conservation Areas identified per the map included in the 2014 South Burlington Open Spaces Report$_{12}$.
- Uncommon Species, Habitat Blocks identified per the Secondary Conservation Maps included in the 2014 South Burlington Open Spaces Report$_{12}$.

3.3. Compatibility

Through reciprocal cooperation with neighboring towns, regional agencies and entities with regional influence, the city plans to promote economical and efficient administration of certain public services including water supply, fire and police protection, transportation, parks, water quality improvement, and waste disposal. In addition, the city recognizes its role within a larger regional context and shall plan in cooperation with neighboring municipalities and other towns in the region.

The development of the South Burlington Comprehensive Plan involved significant consideration of potential compatibility with the plans of adjoining municipalities and the region. The proposed plans of adjoining municipalities and the CCRPC were consulted at great length and discussions were held with the municipal and regional staff planners.

The South Burlington Comprehensive Plan is compatible with the plans of adjoining municipalities. As South Burlington implements its plan, adjoining municipalities shall be consulted and invited to comment on projects and studies which may affect an adjoining town or city.

South Burlington's plan is largely consistent with the regional plan. The city's proposed land use and City Center/Mixed Use growth center concept is largely consistent with the region's proposed growth center concept. In addition, proposed transportation improvements are consistent as are the recommendations for provision of affordable housing and protection of watercourses, natural resources, and Lake Champlain.

4: References and Resources

3.1. The Maps

3.2. Plans and Studies

3.3. Data Tables

3.4. Resource List

3.5. End Notes