

**ADDRESSING THE LAND USE, ENVIRONMENTAL
QUALITY, AND TRANSPORTATION CONNECTION IN
CHITTENDEN COUNTY, VERMONT: USING NEPA TO
ARRIVE AT AN AFFORDABLE, EFFECTIVE, AND
ENVIRONMENTALLY RESPONSIBLE SOLUTION FOR
VERMONT'S TRANSPORTATION FUTURE**

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INTRODUCTION

Sprawl is no accident. An offspring of the fossil fuel age, sprawl is the result of policy and investment choices our society has made over the last fifty to one hundred years. One of the most fundamental of these choices is the heavy investment we have made in highway infrastructure to accommodate the automobile. If we intend to address the environmental and other problems created by sprawl, we must recognize how major transportation infrastructure investments affect growth patterns.

This Article concerns a major proposed belt-highway project in the Burlington, Vermont region. The highway's projected cost is about \$223 million and climbing—a once-in-a-generation transportation investment for the state. Vermont, which is known for its sound environmental stewardship, faces a major choice for its future. Proponents of the highway feel it is a long-delayed necessity to relieve congestion and foster economic growth. Opponents of the highway contend that it will do little more than open up undeveloped land to further sprawl with few benefits and tremendous expense.

This Article will examine whether the National Environmental Policy Act of 1969 (NEPA)¹—which requires that environmental impacts from major federal actions, like highway projects, be examined and that alternatives be considered²—has proved a useful tool for ensuring that

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1. 42 U.S.C. §§ 4321–70(f) (2000).

2. *Id.*

Vermont thoughtfully considers the most affordable, effective, and environmentally responsible solutions for its traffic problems prior to making its planned investment. Part I of this Article looks generally at highways and the problem of sprawl. It then discusses sprawl and land use in the Burlington area. Part II examines the political and historical context of the proposed highway, including the context in which the NEPA review of the highway has occurred. Part III explores the NEPA review of the highway from a legal and policy perspective. Finally, Part IV looks forward to the next phase of the NEPA process and possible alternatives that should be explored to arrive at a sensible and affordable transportation solution that will promote the area's long-term environmental and economic well-being.

I. THE TRANSPORTATION AND LAND USE CONNECTION: IN AMERICA AND IN VERMONT

A. *Sprawl in America*

There is no universally agreed upon definition for sprawl, but many consider sprawl to be growth that is characterized by low-density development; geographic separation of essential places such as work, homes, shopping, and schools; and almost complete dependence on automobiles for travel.³ Much suburban growth arguably fits this definition of sprawl.⁴

Since America began its commitment to highway investment in the 1950s, urbanized areas have sprawled. Highways enable sprawl because they provide access to previously remote land and give rise to dispersed, automobile dependent growth.⁵

In 1950, America was a largely urban and rural nation, with about 70% of Americans living in cities.⁶ Prior to 1950, cities tended to be compact.⁷ Most families owned at most one car, and, tending to live close to their work location, many people were able to walk to work or take public transit

3. See, e.g., RALPH E. HEIMLICH & WILLIAM D. ANDERSON, U.S. DEP'T OF AGRIC., DEVELOPMENT ON THE URBAN FRINGE AND BEYOND: IMPACTS ON AGRICULTURE AND RURAL LAND 10 (2001).

4. *Id.*

5. OWEN D. GUTFREUND, 20TH CENTURY SPRAWL: HIGHWAYS AND THE RESHAPING OF THE AMERICAN LANDSCAPE 1-3 (2004).

6. 1000 FRIENDS OF OREGON, MAKING THE CONNECTIONS: A SUMMARY OF THE LUTRAQ PROJECT 3 (1997) (citing DAVID RUSK, CITIES WITHOUT SUBURBS 5 (1993)).

7. GUTFREUND, *supra* note 5, at 1-2 (discussing how twentieth century transportation policy caused urban areas to trend from centralized growth to deconcentration).

such as subways or buses.⁸ In contrast, in 1990, about 60% of Americans lived in suburban areas where the automobile is the principle form of transportation and land use patterns are often sprawling or dispersed.⁹

Largely as result of highways, “[b]etween 1954 and 1997 . . . [metropolitan] land area has almost quadrupled.”¹⁰ In the past 30 years, growth in metropolitan areas has exceeded population growth by an average of 2.65 times.¹¹ Growth has also become less dense. According to a study performed in the late 1980s, commercial and residential development used 0.65 acre of land per person in 1988 compared to about 0.18 acre of land per person in the 1950s.¹² This trend of rapid land consumption shows no signs of slowing. From 1992 to 1997, more land was developed than during the previous ten-year period.¹³

Sprawl makes it harder to get around. Even with more highway lanes and miles being built, our ability to accommodate traffic is dwindling. Like land use consumption, Vehicle Miles Traveled (VMT) growth is outpacing population growth.¹⁴ This is because highways drive growth that has the effect of causing VMT and congestion to increase at a steeper rate than new road capacity can handle.¹⁵ As a result, traffic has soared, and peak-period congestion has approximately doubled in the last twenty years.¹⁶ Thus,

8. See *id.* at 54–55 (stating that in the early 1950s, “[o]ver one-quarter of American families did not own a car and 60 percent of women did not have driver’s licenses”).

9. 1000 FRIENDS OF OREGON, *supra* note 6, at 3.

10. U.S. ENVTL. PROT. AGENCY, OUR BUILT AND NATURAL ENVIRONMENTS: A TECHNICAL REVIEW OF THE INTERACTIONS BETWEEN LAND USE, TRANSPORTATION, AND ENVIRONMENTAL QUALITY 4 (2001) [hereinafter EPA, OBNE]. During this time, metropolitan land area went from 18.6 million acres to 74.0 million acres in the lower forty-eight states. *Id.*

11. *Id.* at 5.

12. WILLIAM FULTON, ROLF PENDALL, MAI NGUYEN, & ALICIA HARRISON, BROOKINGS INST., CTR. ON URBAN & METRO. POLICY, WHO SPRAWLS MOST? HOW GROWTH PATTERNS DIFFER ACROSS THE U.S. 6 (2001) (citing 2020 PANEL, POPULATION GROWTH AND DEVELOPMENT IN THE CHESAPEAKE BAY WATERSHED TO THE YEAR 2020 (1988), available at <http://www.chesapeakebay.net/pubs/522.pdf>).

13. EPA, OBNE, *supra* note 10, at 4. From 1992–1997 nearly 16 million acres were developed. *Id.* In comparison, about 13 million acres were developed between 1982 and 1992. *Id.*

14. *Id.* at 19. Since 1980, VMTs have grown at an annual rate of about 3.1% compared with a 1% increase in population growth. *Id.* VMT growth during the 1980s and 1990s in urban areas is particularly striking when compared to population growth. Between 1982 and 1996, the Salt Lake City metropolitan area experienced a population growth rate of 32% and a VMT growth rate of 129%; the Chicago area had a population growth of 11% and a VMT growth rate of 79%; Nashville’s metropolitan area had a population growth rate of 25% while its VMT growth rate was 120%; Boston’s population growth was 6% compared to a 31% increase in VMT; the Washington, D.C. metropolitan area had a population growth rate of 28% compared to a 78% increase in VMT. *Id.* at 20.

15. EPA, OBNE, *supra* note 10, at 21–25.

16. See DAVID SCHRANK & TIM LOMAX, TEX. TRANSP. INST., THE 2003 ANNUAL URBAN MOBILITY REPORT 14 (2003) (explaining the rise in peak-period congestion since 1982). In a recent study, the average annual traffic delay per person in urban areas studied soared from seven hours in 1982 to twenty-six hours in 2001. *Id.* at iii. In the twenty years from 1982 to 2001, congested peak

highway-induced sprawl is forcing more people to drive further and more often to get to destinations such as work, home, and the places they shop, eat, and recreate.¹⁷

Sprawl also has serious environmental impacts. Many of today's most pressing environmental problems are a direct result of the sprawling development patterns we have seen over the last fifty years.¹⁸ More roads, rooftops, lawns, driveways, parking lots, stores, houses, and automobile use spell trouble for our water, health, air, and wildlife. Sprawl is a major culprit in many current environmental problems; chiefly, habitat loss and fragmentation, degradation of water quality and water resources, and global warming and air pollution.¹⁹

All these problems are of concern, but global warming is worth particular note in light of the urgent need to address the threat. Vehicle emissions are a primary source of greenhouse gas (GHG) emissions, which most scientists believe are contributing to global warming.²⁰ In 1997, the transportation sector was responsible for 32% of carbon dioxide emissions, the primary GHG.²¹ This number represents a sharp upward trend.²² Sprawl primarily increases GHG emissions by forcing more and longer car trips.²³ Even if GHG emissions from individual vehicles are reduced

period travel doubled from 33% in 1982 to 67% in 2001—meaning that two out of three cars experience congestion during peak travel periods each day. *Id.* at 14. In 1982, 34% of the major road system was congested; 59% was congested in 2001. *Id.* The number of hours of the day when congestion might be encountered grew from approximately 4.5 hours in 1982 to about 7 hours in 2001. *Id.*

17. See EPA, OBNE, *supra* note 10, at 21 (explaining that from 1983 to 1995 the average length of a commute to work increased by 36%).

18. See *id.* at 12–19, 29–32 (describing the environmental impacts of sprawl and increased automobile use).

19. *Id.*

20. *Id.* at 30. Global warming is anticipated to create a host of problems. Global warming could lead to climatic changes such as increased droughts, changes in vegetation, and more frequent and intense storm events. *Id.* Global warming is also expected to increase sea levels, which could flood coastal areas and wetlands, as well as push salt water further upstream into important rivers and water tables, many of which are used to supply drinking water. *Id.* at 31. All of these changes could have potentially devastating economic and environmental consequences. For instance, in Vermont, global warming poses an enormous threat to two of Vermont's best known industries—leaf peeping (watching fall foliage) and skiing. U.S. ENVTL. PROT. AGENCY, CLIMATE CHANGE AND VERMONT 3–4 (1998). If current projections prove correct, over the next several decades sugar maple forests (which provide the brilliant reds and oranges of Vermont's fall, as well as maple syrup) will eventually be replaced by oak and conifer forests more tolerant of higher temperatures. *Id.* at 4.

21. EPA, OBNE, *supra* note 10, at 30.

22. *Id.* at 30–31. In 1984, the transportation sector emitted 379 million metric tons of carbon. *Id.* at 30. By 1997, that number had grown to 473.1 million metric tons and is projected to be 697.3 million metric tons by 2020—47.5% of all carbon dioxide emissions. *Id.* at 30–31.

23. See BENNET HEART & JENNIFER BIRINGER, THE SMART GROWTH—CLIMATE CHANGE CONNECTION (2000), available at <http://clf.org/uploadedFiles/CLF/General/Publications/The%20Smart%20Growth%20Climate%20Chan>

through technological advances, the sheer growing number of vehicles and vehicles trips caused by sprawl is likely to overwhelm any such advancements.²⁴

Sprawl also has enormous economic impacts on both individuals and communities. Sprawl tends to redistribute jobs and economic activity from a centralized urban core to outlying areas.²⁵ Developers often claim that growth labeled as sprawl creates jobs and economic growth beneficial to areas. Yet, there is ample evidence that sprawl has negative economic effects. For instance, sprawl causes urban centers lose in the overall share of tax revenue and jobs to suburbs. It also forces individuals to spend more time, effort, and money commuting. Sprawl also impacts employers who lose productivity from workers burnt out on long commutes. Moreover, the suburbs themselves must provide services to disparate developments that result from sprawl.²⁶ Sprawl directly impacts a household's bottom line as well. In twenty-eight metro areas studied, households in the top third most sprawling areas devoted 20% more of their spending dollar to transportation than households in the third of metro areas with the fewest sprawling characteristics.²⁷ Those living in automobile dependent, sprawling communities are also the most economically vulnerable in the event of an energy crunch and resulting high gas prices.²⁸

Thus, overall, rather than creating new economic growth, highways tend to merely redistribute such growth.²⁹ For instance, job growth at a newly constructed suburban interchange often comes at the expense of job

ge%20Connection.pdf (considering “the question of how to correlate [vehicle miles traveled] and vehicle trips with greenhouse gas emissions” and concluding that smart growth (as opposed to sprawl) is “an important component of a greenhouse gas reduction strategy”).

24. DAVID GURIN, UNDERSTANDING SPRAWL: A CITIZEN'S GUIDE 16 (2003), available at http://www.davidsuzuki.org/files/Climate/Ontario/Understanding_Sprawl.pdf.

25. See JOHN BRENNAN & EDWARD W. HILL, BROOKINGS INST., CTR. ON URBAN & METRO. POLICY, WHERE ARE THE JOBS? CITIES, SUBURBS, AND THE COMPETITION FOR EMPLOYMENT 1-9 (1999), available at <http://web.archive.org/web/20060104073615/http://www.brook.edu/es/urban/hillfa.pdf> (detailing the loss of job growth in cities to suburban areas).

26. See *id.*; see also SURFACE TRANSP. POLICY PROJECT, TRANSPORTATION AND ECONOMIC PROSPERITY, <http://www.transact.org/library/factsheets/prosperity.asp> (last visited Apr. 21, 2007) (detailing worker productivity lost due to stress from commuting); SCHRANK & LOMAX, *supra* note 16, at 23 (finding that, in 2001, congestion cost the average person in urban areas \$520 a year); BENNET HEART ET AL., CONSERVATION LAW FOUND. & VT. FORUM ON SPRAWL, COMMUNITY RULES: A NEW ENGLAND GUIDE TO SMART GROWTH STRATEGIES 4-5, 51 (2002) [hereinafter CLF & VFOS, COMMUNITY RULES] (detailing the infrastructure costs to communities resulting from sprawl).

27. CLF & VFOS, COMMUNITY RULES, *supra* note 26, at 6. In this study, sprawl was measured by a formula accounting for a mix of land uses, clustering and centeredness, and compactness. *Id.* at 32.

28. GURIN, *supra* note 24, at 16.

29. BRENNAN & HILL, *supra* note 25, at 2.

growth in the urban core.³⁰ Meanwhile, the costs of highways have an impact on the entire region by degrading environmental quality, creating congestion, and negatively impacting quality of life.³¹

B. Sprawl in Vermont

Vermont generally conjures up images of bucolic dairy farms, rolling mountains, fall colors, and maple syrup. Yet its largest city, Burlington, is confronting sprawl. While Burlington's population of just under 40,000³² would constitute only a large town in most places, it is Vermont's largest city and does not have a close competitor.³³ It serves as the metropolitan center of rapidly developing and suburbanizing Chittenden County, where roughly 150,000 people live, constituting about a quarter of Vermont's total population.³⁴

Most of downtown Burlington has developed in a mixed-use pattern, where residential, cultural, educational, commercial, and industrial uses are interspersed.³⁵ Other municipalities in Chittenden County form half "rings" around Burlington, Winooski (a small city adjacent to Burlington), and South Burlington (a mostly suburban city bordering Burlington to the east and south).³⁶ The first ring of towns, north to south, consist of Colchester, Essex (both the town and the village of Essex Junction), and Williston.³⁷ A series of more rural towns exist as an outer ring. A major interstate highway services the region: I-89, which runs diagonally from New Hampshire northwest through Vermont to Burlington and then heads north into Quebec.³⁸

The Burlington region has experienced significant suburbanization in the last half-century.³⁹ Despite progressive state policies favoring "smart

30. *Id.*

31. *Id.* at 7, 11–13.

32. U.S. CENSUS BUREAU, U.S. DEP'T OF COMMERCE, 2000 CENSUS OF POPULATION AND HOUSING: VERMONT: 2000: SUMMARY POPULATION AND HOUSING CHARACTERISTICS 2 tbl.1 (2002), available at <http://www.census.gov/prod/cen2000/phc-1-47.pdf> [hereinafter 2000 U.S. CENSUS].

33. *Id.* at 2–9 tbl.1.

34. *Id.* at 2 tbl.1.

35. VT. DEP'T OF HIGHWAYS, GREATER BURLINGTON URBAN AREA HIGHWAY PLAN 5–6 (1966) [hereinafter 1966 PLAN].

36. CHITTENDEN COUNTY REG'L PLANNING COMM'N, 2001 CHITTENDEN COUNTY REGIONAL PLAN 3.7 fig.LU-3 (2001) [hereinafter CCRPC, 2001 REGIONAL PLAN].

37. NORTHERN CARTOGRAPHIC, GREATER BURLINGTON AND CHITTENDEN COUNTY ROAD MAP (5th ed. 2000).

38. *Id.*

39. See, e.g., THE CHAMPLAIN INITIATIVE, THE CASE FOR A HEALTHY COMMUNITY: THE HISTORY OF SPRAWL IN CHITTENDEN COUNTY 16 (1999) (detailing the early symptoms of sprawl in Chittenden County); CCRPC, 2001 REGIONAL PLAN, *supra* note 36, at 2.1 ("Over the past 40 years,

growth,”⁴⁰ the urban core of the Burlington area is losing growth in jobs, housing, and population at a steadily increasing rate to its suburbs.⁴¹ Much of this suburban development is occurring in a dispersed and automobile-dependent manner typical of sprawl,⁴² with growth often sprouting along interstate interchanges and state highways that have been upgraded and widened.⁴³

Suburbanization in Chittenden County is similar to that seen throughout the country. Growth is moving from compact growth centers to outlying suburbs occupying former farmland.⁴⁴ Land use in the Burlington area is also outpacing population growth. Between 1982 and 1997, the Burlington metropolitan region had an increase in population of 20.6%.⁴⁵ Meanwhile, urbanized land grew by 50.4%.⁴⁶ The region’s density (population divided by urbanized land) dropped by almost 20%, meaning

residents have seen the area around Burlington transform from farmlands to an urban and suburban landscape supported by a service and manufacturing economic base.”).

40. As outlined by the EPA’s Smart Growth Network, “smart growth” is growth that seeks to: [m]ix land uses; [t]ake advantage of compact building design; [c]reate a range of housing opportunities and choices; [c]reate walkable neighborhoods; [f]oster distinctive, attractive communities with a strong sense of place; [p]reserve open space, farmland, natural beauty, and critical environment areas; [s]trengthen and direct development towards existing communities; [p]rovide a variety of transportation choices; [m]ake development decisions predictable, fair and cost effective; [and] [e]ncourage community and stakeholder collaboration in development decisions.

U.S. ENVTL. PROT. AGENCY & SMART GROWTH NETWORK, WHAT IS SMART GROWTH? (2001), available at <http://www.epa.gov/dced/pdf/whitissg4v2.pdf>.

41. THE CHAMPLAIN INITIATIVE, *supra* note 39, at 24–25.

42. A leading study of sprawling growth patterns in Chittenden County defines sprawl in a manner consistent with the definition used in this Article:

Sprawl is a regional land use pattern of scattered, low-density, single use development. It is a cumulative phenomenon that begins at the edge of traditional centers and moves outward incrementally into previously rural areas. It is land-consuming, auto dependent, energy- and resource-intensive, economically exclusive, and is initially some distance from existing infrastructure.

THE CHAMPLAIN INITIATIVE, *supra* note 39, at 6; *see generally* HEIMLICH & ANDERSON, *supra* note 3, at 10 (defining sprawl).

43. THE CHAMPLAIN INITIATIVE, *supra* note 39, at 16; CCRPC, 2001 REGIONAL PLAN, *supra* note 36, at 3.2 (“[Post World War II] [n]ew residential neighborhoods, retail stores, motels, restaurants, and manufacturing facilities were built along paved highways that were once dirt roads.”).

44. CCRPC, 2001 REGIONAL PLAN, *supra* note 36, at 3.11. In 1940, five traditional, compact growth centers—Burlington, Winooski, Essex Junction, Milton Village and Richmond Village—housed 71% of the County’s population, and Chittenden County was generally comprised of such growth centers surrounded by extensive farmland. THE CHAMPLAIN INITIATIVE, *supra* note 39, at 10. By 1996, that number had declined to about 40%. *Id.* In 1950, farmland comprised 72.6% of the land use in the County. *Id.* at 12. By 1992, farmland only comprised 24.0% of the County’s land use. *Id.* By 1996, about half of Chittenden County residents lived in the suburbs. *Id.*

45. FULTON ET AL., *supra* note 12, at 20.

46. *Id.*

growth patterns in the Burlington region are becoming less dense and more dispersed.⁴⁷ Additionally, population and job growth in the suburban fringe is outpacing growth in the urban core, with overall job share and population share trending toward the newly developing suburbs.⁴⁸

Sprawl is also taking a toll on the environment. Due to pollution in large part from development and stormwater, several area waterways, including Lake Champlain, are now impaired for basic uses, such as fishing and swimming.⁴⁹ Recently, air pollutants associated with automobile travel, such as ozone and fine-particulate matter, have threatened to exceed safe levels.⁵⁰ Moreover, Chittenden County now has several species that are endangered or threatened, which is likely due, in part, to the negative effects of sprawl.⁵¹

The trend towards suburbanization is accelerating. Chittenden County's growth is increasingly becoming more dispersed and pushing upon the boundaries of the metropolitan area.⁵² While Burlington remains

47. *Id.*

48. THE CHAMPLAIN INITIATIVE, *supra* note 39, at 10–11; *see also* CHITTENDEN COUNTY METRO. PLANNING ORG., CHITTENDEN COUNTY METROPOLITAN TRANSPORTATION PLAN: YEAR 2003 UPDATE: DRAFT 4-3 to 4-5 (2003) [hereinafter CCMPO, 2003 TRANSPORTATION PLAN DRAFT UPDATE] (describing the population and job growth in the greater Burlington area) (on file with author).

49. WATER QUALITY DIV., VT. DEP'T OF ENVTL. CONSERVATION, 303(D) LIST OF WATERS 3–4 (2004), *available at* http://www.anr.state.vt.us/dec/waterq/planning/docs/pl_303dlist.pdf [hereinafter VT. 303(D) LIST].

50. CCRPC, 2001 REGIONAL PLAN, *supra* note 36, at 8.3 fig.NR-1; *see* U.S. Env'tl. Prot. Agency, Region 1: New England 2000 Ozone Exceedances, <http://www.epa.gov/region01/airquality/o3exceed-00.html> (last visited Apr. 21, 2007); U.S. Env'tl. Prot. Agency, Region 1: New England 2001 Ozone Exceedances, <http://www.epa.gov/region01/airquality/o3exceed-01.html> (last visited Apr. 21, 2007); U.S. Env'tl. Prot. Agency, Region 1: New England 2002 Ozone Exceedances, <http://www.epa.gov/region01/airquality/o3exceed-02.html> (last visited Apr. 21, 2007) [hereinafter EPA, Region 1, Ozone Exceedances] (listing preliminary data for ozone exceedances throughout New England for the years 2000–2002).

51. LAKE CHAMPLAIN BASIN PROGRAM, THREATENED OR ENDANGERED SPECIES IN THE LAKE CHAMPLAIN BASIN (2005), *available at* <http://www.lcbp.org/PDFs/endangered.pdf>. The species are endangered or threatened mostly on the state level. *Id.* Some of these species include the threatened Eastern Sand Darter (*Ammocrypta pellucida*); the endangered Lake Sturgeon (*Acipenser fulvescens*); and several species of mussels. *Id.* Many species of mussels suffer impacts from sediment and other pollutants from development-polluted waters. *See* RIVEREDGE ASSOCIATES, LLC, N.Y. POWER AUTH., ASSESSMENT OF THE POTENTIAL EFFECTS OF WATER LEVEL AND FLOW FLUCTUATIONS AND LAND MANAGEMENT PRACTICES ON RARE, THREATENED, AND ENDANGERED SPECIES AND SIGNIFICANT OCCURRENCES OF NATURAL COMMUNITIES AT THE NIAGARA POWER PROJECT 5–12 (2005) (detailing the effects of sedimentation on mussels such as those endangered or threatened mussels found in waters affected by the CCCH).

52. *See* THE CHAMPLAIN INITIATIVE, *supra* note 39, at 25 (describing the movement of businesses away from downtown toward the suburbs). A prime example of such disperse growth is the Taft Corners development at the Route 2A interchange of I-89 in Williston. *Id.* Taft Corners contains over 460,000 square feet of “big box” retail space—the equivalent in size to all shoppers-goods space in downtown Burlington (stores containing general merchandise, apparel, furniture and home furnishings,

the area's largest city, growth in the urban core has essentially stagnated and growth in suburban and outlying towns continues at a steady upward rate.⁵³ Between 1980 and 1996, 82% of new jobs in the County were added in suburban communities.⁵⁴

Chittenden County is expected to add another 102,503 people by 2035, an increase of 69%.⁵⁵ Most of this growth is projected to occur on the suburban fringe of the County.⁵⁶ With residential populations projected to increase dramatically in outlying areas, the problems of sprawl and congestion in the County will probably only get worse.

The suburbanization trend is happening despite policies set forth by Vermont and Chittenden County that recognize the need to promote smart growth and to address the connection between land use and transportation.⁵⁷

and certain miscellaneous goods). *Id.* at 24–25. Another development being completed at the same interchange will add another 300,000 square feet of retail space. *Id.* at 25. As of 1995, the retail square footage per capita in Chittenden County was a staggering 37.2 square feet per capita, compared with a national average of 19.3 square feet per capita. *Id.*

53. For instance, in 1960, Chittenden County's population was 74,425, with 35,531 people living in Burlington. BUREAU OF THE CENSUS, U.S. DEP'T OF COMMERCE, 1960 CENSUS OF POPULATION: ADVANCE REPORTS: FINAL POPULATION COUNTS: VERMONT 3 tbl.2 (1960), available at <http://www2.census.gov/prod2/decennial/documents/15611126.zip> (unzip, locate file named "15611126ch5.pdf," and go to p. 61). In 2001, the County's population was 147,591, a 90% increase over the 1960 population. CCMPO, 2003 TRANSPORTATION PLAN DRAFT UPDATE, *supra* note 48, at 4-3. Most of this growth has occurred in the first suburban ring. Very little growth has occurred in Burlington. In 1970, Colchester, Essex Town, and Williston had populations of 8776, 10,951, and 3,187, respectively. BUREAU OF THE CENSUS, U.S. DEP'T OF COMMERCE, 1970 CENSUS OF POPULATION: ADVANCE REPORT: FINAL POPULATION COUNTS: VERMONT 3-4 tbl.2 (1970), available at <http://www2.census.gov/prod2/decennial/documents/26084397v1.zip> (unzip, locate file named "26084397v1ch5.pdf," and go to pp. 11–12) [hereinafter 1970 U.S. CENSUS]. These towns now have populations of 16,986, 18,626, and 7,650, respectively. 2000 U.S. CENSUS, *supra* note 32, at 2 tbl.1, 4 tbl.1. Meanwhile, in 1970, Burlington's population was 38,633. 1970 U.S. CENSUS, *supra*, at 3 tbl.2. In 2000, Burlington's population was almost the same at 38,889. 2000 U.S. CENSUS, *supra* note 32, at 2 tbl.1.

54. THE CHAMPLAIN INITIATIVE, *supra* note 39, at 11.

55. CCMPO, 2003 TRANSPORTATION PLAN DRAFT UPDATE, *supra* note 48, at 4-10.

56. *See id.* (noting that between the years 2000–2035, the core cities of Chittenden County have a projected population growth of 0.48% versus the fringe towns projected growth of 1.97%).

57. In Vermont, most planning takes place on the local or municipal level. *See* VT. STAT. ANN. tit. 24, § 4302(b) (2004) ("It is . . . the intent of the legislature that municipalities, regional planning commissions and state agencies shall engage in a continuing planning process."); *id.* §§ 4301–4483 (setting forth municipal and regional planning law for Vermont). However, Vermont law gives contiguous municipalities the power to create regional planning commissions by the act of either the voters or legislative bodies of each municipality. *Id.* § 4341(a). The Agency of Commerce and Community Development must sign off on the creation of a regional planning commission and ensure that the proposed region indeed "constitute[s] a logical geographic and a coherent socio-economic planning area." *Id.* Regional planning commissions are then required to devise a regional plan. *Id.* § 4345(a)(5). Municipalities use the plan as a guide in preparing local plans. *Cf. id.* § 4350(a) (requiring regional planning commissions to "consult with their municipalities with respect to the municipalities' planning efforts").

Vermont state law directs state agencies, regional planning commissions, and municipalities “[t]o plan development so as to maintain the historic settlement pattern of compact village and urban centers separated by rural country-side.”⁵⁸ Similarly, a state directive intended to guide statewide investment decisions explains that state agencies should “[e]ncourage development in, and work to revitalize, land and buildings in existing village and urban centers.”⁵⁹

The 2001 Chittenden County Regional Plan, which governs the entire County, supports growth that promotes multi-modal transportation offering choice to users.⁶⁰ Likewise, in the mid-1990s, the Chittenden County Metropolitan Planning Organization (CCMPO)⁶¹ set out the following vision for Chittenden County:

Our plan supports dense community centers that mix residential and commercial development to facilitate mass transportation and offers basic services accessible by means other than private, single-occupancy vehicles. Transportation services are, in these developments, more energy efficient, cost effective, and foster a sense of community.⁶²

58. *Id.* § 4302(c)(1).

59. VT. STAT. ANN. tit. 3, § 2293(c)(6) (2003).

60. CCRPC, 2001 REGIONAL PLAN, *supra* note 36, at 1.1. The plan states that: Traditional downtowns will be redeveloped to create an enjoyable high density, mixed use, and pedestrian- and bicycle-friendly atmosphere. In addition, new downtowns and smaller commercial activity centers will be located throughout the county in a variety of sizes, densities and mixes. These centers, planned by local municipalities and coordinated regionally, will create efficient land use by mixing commercial, cultural, recreational, employment, and residential uses clustered, where possible, around multi-modal transit options. The combination of redeveloped traditional downtowns and newer mixed-use centers will reduce vehicle usage, reduce air pollutants, and increase personal time thereby improving our quality of life.

Id.

61. The CCMPO is a federally mandated transportation planning entity that defines its planning region conterminous with the County’s boundaries. 23 U.S.C. § 134(a)–(b) (2000). Federal law requires that urban areas with populations of greater than 50,000 have a metropolitan planning organization responsible for comprehensive planning. *Id.* An MPO must have long-range transportation plans and transportation improvement programs, known as TIPs. *Id.* § 134(g)–(h).

62. CHITTENDEN COUNTY METRO. PLANNING ORG., A TWENTY-YEAR VISION FOR TRANSPORTATION IN CHITTENDEN COUNTY: A SYNOPSIS OF CHITTENDEN COUNTY’S 1997 LONG RANGE TRANSPORTATION PLAN 1 (1997), *available at* <http://www.ccmpto.org/LibraryFiles/pdfs/97mtpsypnosis.pdf>. The CCMPO updated the Long-Range Metropolitan Transportation Plan in 2005. The stated vision for the new Plan similarly recognizes the connection between transportation and land use planning: “Our transportation system enhances and connects healthy, vibrant communities. It is safe, efficient, multi-modal, and accessible to all. It supports economic vitality, and is designed and operated to complement and respect our cherished natural resources and cultural heritage.” CHITTENDEN COUNTY METRO. PLANNING ORG., 2025 CHITTENDEN COUNTY METROPOLITAN TRANSPORTATION PLAN 11 (2005), *available at*

Such enlightened policies have not always been evident in state investment decisions. Chittenden County has continued to invest in major road upgrades as growth pressure has stretched outward. For example, from 1992 to 1995, the Vermont Agency of Transportation spent an average of 88% of its budget on highway-related projects and only 12% on non-highway projects like transit.⁶³ A recent CCMPO Transportation Improvement Program (TIP), which authorizes funding for transportation projects in the County, devoted almost 60% of the County's transportation budget for the years 2004–2006 to road- and highway-capacity expansion.⁶⁴

With the growth detailed above, pressure on the road system in Chittenden County is intensifying. Arterial roadways comprise 17% of the County's road mileage, but account for about two-thirds of all of the County's VMT.⁶⁵ Most of these arterials roads (65%) perform at a level of service of "fair" or worse.⁶⁶ Additionally, peak traffic and VMT in the County are currently projected to increase by 50% or 60% between 2000 and 2025.⁶⁷ This equals an annual growth rate in VMT of between 1.6% to 1.9% compared with a population growth rate of 1.5%.⁶⁸ Also, traffic volume in the County is projected to increase another 360% by the year 2025, roads over capacity will increase 500% by 2025, and Vehicle Hours of Travel (one vehicle traveling one hour) will increase almost 100% by

http://www.ccmpto.org/MTP/MTP_final_apr2005.pdf [hereinafter CCMPO, 2025 MTP]. The updated plan's "Vision" is supported by twelve goals, many of which specifically recognize the importance of anti-sprawl producing measures and smart growth, such as:

Goal 2: Reinforce sustainable land use patterns, such as growth centers, as set forth in local and regional plans. . . .

Goal 5: Protect or enhance the region's built and natural environments.

Goal 6: Create a transportation system that builds community, enhances neighborhood vitality, and minimizes noise, glare, and vibration. . . .

Goal 8: Consider ways to improve transportation system efficiency before increasing transportation capacity. . . .

Goal 10: Develop a transportation system that features a variety of travel modes and encourages the reduction of single occupant vehicle use.

Id. at 12.

63. THE CHAMPLAIN INITIATIVE, *supra* note 39, at 35.

64. CHITTENDEN COUNTY METRO. PLANNING ORG., TRANSPORTATION IMPROVEMENT PROGRAM FOR FISCAL YEARS 2004–2006, at 21–22 (2003) [hereinafter CCMPO, TIP] (on file with author).

65. CCMPO, 2025 MTP, *supra* note 62, at 20.

66. *Id.* Level of service looks at the capacity, or "the maximum number of vehicles that can pass through an intersection or over a roadway in a given period of time." *Senville v. Peters*, 327 F. Supp. 2d 335, 341 n.4 (D. Vt. 2004). "The closer the traffic volumes are to the capacity of the roadway or intersection," the lower the level of service. *Id.*

67. CCMPO, 2025 MTP, *supra* note 62, at 27.

68. *Id.*

2025.⁶⁹ Unless action is taken, Chittenden County faces a sprawling and congested future.

II. THE CHITTENDEN COUNTY CIRCUMFERENTIAL HIGHWAY: FORTY YEARS OF SHIFTING RATIONALES AND POLITICAL UNDERTONES

The challenge for Vermont policy makers is to reverse Chittenden County's sprawling trend and translate the smart growth policy goals into results. Yet Vermont's most substantial planned transportation investment is an anachronistic belt highway that will slice through the suburbs of Williston, Essex, and Colchester, which would arguably be contrary to those goals.⁷⁰ This anachronistic project, if built, would likely be Vermont's largest transportation project for at least a generation.

The project is the Chittenden County Circumferential Highway (CCCH), whose recent total projected cost was about \$223 million, a figure that has often escalated and may do so again.⁷¹ The CCCH was the central piece of a lopsided plan for a recent three-year period that allocated 58.2% of total funds to capacity-expansion projects for the County, which is substantial compared to the 13% allocated for transit projects and 0.8% for bicycle and pedestrian projects.⁷² As of 2003, construction of the next scheduled phase of the highway, segments A and B in Williston, was estimated to cost \$48.7 million, comprising approximately one-third of planned County transportation expenditures between 2004 and 2006.⁷³ The CCCH was conceived forty years ago in an era when the full effects of highway construction were not well known, global warming was virtually

69. Chittenden County Metro. Planning Org., Chittenden County Facts, http://www.ccmpto.org/chittenden_county.html (last visited Apr. 21, 2007). These trends in the Burlington metropolitan region are in line with trends for small urban areas generally. According to a leading study done by the Texas Transportation Institute, small urban areas (defined as those areas with fewer than 500,000 people) have seen traffic congestion problems increase quite dramatically in the last twenty years. SCHRANK & LOMAX, *supra* note 16, at 15. For instance, in these small metropolitan areas, the percentage of travel in congested conditions has risen from 11% in 1982 to 29% in 2001. *Id.* The number of hours a day when congestion may occur in these small areas has risen from fewer than three in 1982 to over four in 2001. *Id.* at 16. The percentage of roads that experience congestion during peak traffic periods in smaller regions has also approximately doubled from about 18% in 1982 to about 38% in 2001. *Id.* at 17.

70. See CCMPO, TIP, *supra* note 64, at 21–22 (listing the budgeted expenditures in Williston, Essex, and Colchester for the fiscal years 2004, 2005, and 2006).

71. Matt Sutkoski, *Judge Halts Circ Construction*, BURLINGTON FREE PRESS, May 11, 2004, at 1A.

72. CCMPO, TIP, *supra* note 64, § 3 at 2.

73. See *id.* at 21–22 (outlining costs associated with constructing the highway at \$48.7 million and the total budget of \$173.8 million). Eighty percent of the highway's funding is from the federal government; the rest is from the state. *Id.* Not a dollar comes from local sources. *Id.*

unheard of, and sprawl was, at most, a distant whisper of a threat to Chittenden County's countryside. Yet with almost no serious consideration of other solutions, this project, which pre-dates the landing on the moon, is still Vermont's answer to congestion problems in the County.

As will be discussed in Part III, the highway's benefits are at best slim. Its costs, in terms of dollars and potential environmental and quality of life impacts, are high. As such, the highway has stirred controversy.⁷⁴ Proponents of the highway have become entrenched in their support of the highway, even while less costly, more effective, and more environmentally sound solutions likely exist. The money allocated for the CCCH can be spent on other solutions.⁷⁵ What is needed now is a new look at transportation investment for Vermont—one that focuses seriously on the environmental and quality of life challenges of the 21st century.

A. *The Early History of the CCCH*

The CCCH was first envisioned as a bypass of Essex Junction Village and its congested Five Corners intersection.⁷⁶ It evolved into a more conventional beltway providing a series of interchanges at major regional roads like I-89, Route 2A, Route 15, and Route 117.⁷⁷

The origins of the CCCH are tied to both the interstate system and major economic forces in Vermont. During the 1950s and early 1960s, Interstate 89 was under construction,⁷⁸ providing the area with easier access to major metropolitan areas such as Boston and New York.⁷⁹ Also, in 1957, the Burlington area managed to attract a major IBM plant.⁸⁰ The

74. See Sutkoski, *supra* note 71, at 10A (“Several environmental groups who sought to block the Circ said the road is a waste of money, will not help the economy and will encourage willy-nilly development across far-flung areas of Chittenden County.”).

75. E-mail from William McKnight, Executive Dir., CCMPO, to Wayne Senville (Apr. 10, 2002).

76. See 1966 PLAN, *supra* note 35, at x, 1 (proposing an integrated highway plan to resolve urban traffic problems in the Greater Burlington Urban Area).

77. VT. AGENCY OF TRANS. & FED. HIGHWAY ADMIN., ENVIRONMENTAL ASSESSMENT: CHITTENDEN COUNTY CIRCUMFERENTIAL HIGHWAY REEVALUATION OF THE 1986 FEIS SEGMENTS A–F, at ES-1, ES-4–5 (2003), available at <http://www.circeis.org/FEIS86Aug15FinalRevisedReval.html> [hereinafter VTRANS & FHWA, REA].

78. THE CHAMPLAIN INITIATIVE, *supra* note 39, at 21.

79. JOE SHERMAN, FAST LANE ON A DIRT ROAD: VERMONT TRANSFORMED 1945–1990, at 76–77 (1991); VT. ENVTL. BD., ACT 250: A GUIDE TO VERMONT'S LAND USE LAW 2 (2000); see also GUTFREUND, *supra* note 5, at 193 (discussing reports claiming the interstates to be the saving grace of Vermont's economy); CCRPC, 2001 REGIONAL PLAN, *supra* note 36, at 7.2 (“The state became a better place to do business as the interstate highway system was completed . . .”).

80. JAN ALBERS, HANDS ON THE LAND: A HISTORY OF THE VERMONT LANDSCAPE 305 (2000); CCRPC, 2001 REGIONAL PLAN, *supra* note 36, at 3.3.

plant, which is located in Williston and Essex along the Winooski River, has brought with it thousands of high-paying jobs.⁸¹ The IBM plant quickly became one of Vermont's largest private sector employers.⁸² IBM not only added additional transportation needs to Chittenden County, but it fed an urge in the area to modernize.⁸³ In the 1960s, becoming modernized meant adapting the region for the automobile age.⁸⁴

Between 1957 and 1964, the Vermont Department of Highways conducted a series of studies for the Burlington area, which was then defined in a relatively limited manner.⁸⁵ As a result of these studies, the Vermont Department of Highways, in 1966, completed a regional planning report.⁸⁶ The report recommended highway upgrades, which included an "Essex Junction Belt Line expressway," designed to loop around Essex Junction's Five Corners as a four-lane, divided highway to be just less than four miles in length.⁸⁷ For the most part, the 1966 report did not take into account the land use or environmental impacts of the recommended highway upgrades and assumed that growth in the urban area would occur around already established "nuclei" and new-growth nuclei that would occur at interstate interchanges.⁸⁸ Ultimately, the report sought to accommodate the automobile. "[T]he problem, stated in general terms, is one of a street network based upon traffic needs of an earlier day. The

81. See ALBERS, *supra* note 80, at 305 (stating that when the plant first opened, it employed 400 workers and grew to employ 7,000 workers by 1999); CCRPC, 2001 REGIONAL PLAN, *supra* note 36, at 3.3 (calling IBM "the most significant economic contributor to Vermont").

82. CCRPC, 2001 REGIONAL PLAN, *supra* note 36, at 3.3.

83. See, e.g., 1966 PLAN, *supra* note 35, at 163 (describing a letter from the Essex Town and Essex Junction Planning Commissions regarding increased traffic from the IBM plant and expressing support of an Essex bypass idea, a precursor to the CCCH).

84. See *id.* at x, 1 (proposing an integrated highway plan to resolve urban traffic problems in the Greater Burlington Urban Area).

85. CHITTENDEN COUNTY METRO. PLANNING ORG., FACT SHEET ON HISTORY OF CHITTENDEN COUNTY CIRCUMFERENTIAL HIGHWAY (CCCH) PLANNING EFFORTS 3 (1999), available at <http://www.ccmppo.org/CCCH/CCCHFactSheet99.PDF> [hereinafter CCMPO, FACT SHEET]. The final report only considered Burlington, Winooski, Essex Junction, South Burlington and parts of Williston and Colchester. 1966 PLAN, *supra* note 35, at 5, 9. However, in 1966, the growth challenges currently facing the County were foreseen. At the time, growth in Essex, Williston, Colchester, and South Burlington were already outpacing growth in Burlington. *Id.* at 4–5. Tellingly, the study noted that "[t]his growth, transcending local boundaries to unite originally separate communities and to envelop areas until recently rural in character, exemplifies the continuing trend brought about by increased use of the motor vehicle." *Id.* at 52 (emphasis added).

86. 1966 PLAN, *supra* note 35; CCMPO, FACT SHEET, *supra* note 85, at 3.

87. 1966 PLAN, *supra* note 35, at 141–49. The report also recommended a Burlington Beltline, a four-lane highway about eight miles in length to run north of the city connecting to I-89 in Colchester and running south of the city to connect with I-189. *Id.* at 63–90. The report further recommended relocating State Highway 2A in Williston to allow automobile traffic to move more easily through the Essex and Williston area. *Id.* at 188–94.

88. *Id.* at 9.

motor vehicle has created traffic of a magnitude and character which cannot be accommodated by a 19th-century circulation system.”⁸⁹

In 1977, another study again endorsed the Bypass/Connector idea.⁹⁰ The Chittenden County Regional Planning Commission (CCRPC) adopted a *Greater Burlington Federal-Aid Urban Area Transportation Study* which recommended an “Essex-Williston Connector,” a “Burlington-Colchester-Essex Circumferential Highway,” and an “Essex Junction Bypass.”⁹¹ Unlike the 1966 report, the 1977 study recognized that an automobile-only focus for transportation was flawed.⁹² It also noted that growth was encroaching into rural areas and realized that this growth was a concern, stating a need “to preserve the rural character prevalent in the more outlying areas of the County.”⁹³ The study also acknowledged, “[t]he pattern of land use is a prime factor in developing or improving the transportation network for a given use.”⁹⁴

However, the study concluded that new growth in the region would be absorbed and predicted that most future population growth would occur in existing growth centers, rather than the less-developed suburban and outlying areas where it has instead occurred.⁹⁵ The 1977 study then used

89. *Id.* Similarly, in assessing traffic problems in Essex Junction, the report stated that “Essex Junction’s traffic problem is this seen as growing out of a circulation network inherited from the earliest of development.” *Id.* at 141.

90. CHITTENDEN COUNTY REG’L PLANNING COMM’N, GREATER BURLINGTON FEDERAL-AID URBAN AREA TRANSPORTATION STUDY, 1976, FINAL REPORT (1977) [hereinafter CCRPC, 1977 STUDY].

91. *Id.* at 206–07. The CCRPC performed the study on contract from the Vermont Department of Highways to conduct urban area transportation planning under a mandate from federal law. *Id.* at 3. The study only looked at Burlington, Winooski, Essex Junction, and parts of Williston, Essex Town and Colchester. *Id.* at 7 fig.1.

92. *Id.* at 1. The report found that:

Previous transportation planning in the urban area had been oriented toward the highway network because the private automobile was the primary mode of travel; however, recent environmental and energy concerns in addition to a relatively unstable national economy has mandated the need to carefully evaluate the enhancement of alternative modes of transportation with an ultimate goal of developing an overall balanced transportation system.

Id.

93. *Id.* at 107.

94. *Id.* at 12.

95. *Id.* at 111. The 1977 study mistakenly projected that most growth will continue to occur in the traditional centers of Burlington, Winooski, and Essex Junction Village. For instance, it projected the year 2000 populations of Burlington, Winooski, and Essex Junction Village to be 59,388, 12,500 and 12,400, respectively. *Id.* at 111 tbl.37. The actual 2000 populations of these towns were 38,889, 6,561, and 8,591, respectively. 2000 U.S. CENSUS, *supra* note 32, at 2 tbl.1, 4 tbl.1. Meanwhile, the study predicted the populations of the portions of Essex Town, Williston, and Colchester within the then-defined Greater Burlington Urban Area, which did not include all parts of these towns, to be 5,200, 2,400 and 1,800, respectively. CCRPC, 1977 STUDY, *supra* note 90, at 111 tbl.37. These towns’ total populations as of 2000 were 18,626, 7650, and 16,986, respectively. 2000 U.S. CENSUS, *supra* note 32,

this inaccurate forecast of the area's future growth as a new justification for the bypass highway, concluding, "[g]rowth in rural and suburban areas of the GBUA has increased the demand for transportation corridors into downtown Burlington, Winooski and Essex Junction."⁹⁶ As such, the 1977 study justified highway bypasses as being necessary to provide outlying residents easier access to concentrated growth centers where jobs and shops are located, as well as ways to bypass these areas.⁹⁷

The next few years would see efforts at highway funding and planning take shape. In 1982, a \$50 million CCCH Demonstration Project was federally approved.⁹⁸ In 1983, the Vermont General Assembly authorized the Vermont Agency of Transportation (VTrans) to accept and administer the federal demonstration funds.⁹⁹ Also in 1983, the CCMPO was formed.¹⁰⁰ Among its first acts was to adopt a Regional Transportation Plan, commissioned by VTrans, recommending construction of the CCCH from I-89 in Williston to Route 127 in Colchester.¹⁰¹

Among other goals, the 1983 report sought to estimate the cost to design and build a circumferential highway.¹⁰² The report specifically laid out plans for a four-lane highway from I-89 in Williston to Colchester that was 15.2 miles long with a then-estimated cost of \$71.1 million.¹⁰³ The report differed from the 1977 study in both its land use projections for the County and its justification for constructing the highway. Unlike the 1977

at 2 tbl.1, 4 tbl.1. While this Article does not have data as to how much of the current population is within the Greater Burlington Urban Area as defined by the 1977 study, one can reasonably assume the study's 2000 predictions were low.

96. CCRPC, 1977 STUDY, *supra* note 90, at 16. Like the 1966 study, the 1977 study still saw traditional downtown growth patterns as "constraints" to good transportation, creating a need for outside residents to be able to avoid having to travel through them. *Id.* at 9.

97. *See id.* at 9, 205-06 (describing the proposed highway's route from outlying areas to growth centers). The highway proposed in the 1977 study would stretch from Route 127 in Burlington, through Colchester, intersect at I-89 in Colchester, continue through to Essex, and terminate in Essex at Route 15, not reaching Williston as the current CCCH proposes. *Id.* at 205-07. However, unlike the 1966 report, the 1977 study also surveyed an array of transportation modes such as rail, bus, water, air, taxi, and bicycle. *Id.* at v. The 1977 study suggested further studying the feasibility of light rail and increased bus service, finding that commuter service between Shelburne and Essex would "be reasonably competitive with the private automobile, provide service to a major portion of the urban area population, and be responsive to future energy conservation programs." *Id.* at 200, 202.

98. CCMPO, FACT SHEET, *supra* note 85, at 3.

99. *Id.*

100. *Id.*

101. *Id.*; *see also* WILBUR SMITH & ASSOCS., FINAL REPORT: PLANNING STUDY: CHITTENDEN COUNTY CIRCUMFERENTIAL HIGHWAY, CHITTENDEN COUNTY, VERMONT I-1 (1983) [hereinafter WILBUR SMITH] (noting the initiation of "a planning study for the Chittenden County Circumferential Highway").

102. WILBUR SMITH, *supra* note 101, at S-1.

103. *Id.* at S-4 tbl.S-1.

study, the 1983 report more accurately projected population and job growth to trend toward suburban areas.¹⁰⁴ The 1983 report cited growth of jobs and other activities within the suburbs themselves as justifying the need for the highway.¹⁰⁵ Thus, in 1983, the new rationale for the highway was to service movement from suburb to suburb.¹⁰⁶ Nowhere did the 1983 report express alarm at this growth trend or analyze whether building a circumferential highway will exacerbate it.¹⁰⁷ Additionally, it did not look at alternative solutions to building a highway and summarily rejected options to reduce the scale of the project.¹⁰⁸

The shifting rationales for the highway over the first twenty years after its conception begs the question of whether the highway even makes sense, a question the state never adequately asked. Indeed, the state has yet to ask this crucial question.

B. 1983 Through the 1990s

Once the highway had secured demonstration-project funds and a planned alignment, it appeared ready to move forward. The next major study of the highway was an Environmental Impact Statement (EIS) conducted by VTrans pursuant to NEPA, a federal statute more thoroughly

104. See *id.* at I-5, II-13 tbl.II-4 (projecting substantial growth in the suburbs). The report predicted that Williston will go from a 1983 estimated population of 4,120 to a 2004 projected population of 8,000; Essex Town from a 1983 estimated population of 8,110 to a 2004 projected population of 12,000; Essex Junction from a 1983 estimated population of 7,690 to a 2004 projected population of 9,000; and Colchester from a 1983 estimated population of 14,180 to a 2004 projected population of 17,000. *Id.* These projections have turned out to be more accurate than the 1977 study's projections.

105. *Id.* at I-5. Moreover, the report expressly cited IBM's expansion plans in Williston as a growth pressure necessitating the CCCH. *Id.* at II-3.

106. See *id.* at II-31 (“[M]ore than one third of all trips [within the study area] are entirely within the influence area [parts of Williston, Essex, and Colchester], suggesting a strong need for the Circumferential Highway.”).

107. The report noted that the corridor itself is relatively free from development, containing agricultural lands, fields, forests, wetlands, and conservation areas. *Id.* at II-5. However, the report did not seem concerned with whether the highway's construction would destroy or degrade these areas. The report merely stated that the study corridor, which consists of a small area surrounding the corridor of the CCCH's proposed construction, will continue to be open space, but that “[t]here will be considerable pressure to expand residential development in order to accommodate the large influx of population expected before the end of the century.” *Id.* at II-6.

108. See *id.* at V-37 to -41 (rejecting a bus/rideshare program as “not an adequate substitute for the loss in highway capacity”). For instance, the report looked at using expanded bus service and ridesharing to allow for a two lane highway but placed most of the onus for these programs on industry and locally funded projects to facilitate rideshare programs like constructing park and ride lots. *Id.* While the report acknowledged that this approach would be cheaper than a full-scale, four-lane highway, it rejected the program largely due to lack of data from urban areas similar to the Burlington region. *Id.* at V-39 to -40.

discussed in Part III of this Article, which generally requires federally funded or sponsored actions to undergo a procedural consideration of potential environmental impacts.¹⁰⁹ A Draft EIS was prepared in 1985, and a Final EIS (FEIS) was issued in 1986.¹¹⁰ The FEIS concluded that the highway was needed.¹¹¹ The FEIS also determined that the project's environmental impacts would not be severe.¹¹²

The FEIS considered several alternatives in its analysis: three alternative alignments for the highway; rebuilding existing roadways; alternative modes of transportation; a limited-build alternative; a Susie Wilson Road (a road in Essex) connector; and a no-action alternative.¹¹³ The FEIS ultimately favored an alignment alternative consisting of a 15.8-mile limited-access highway arcing from I-89 in Williston to the northwest through Essex and Colchester and terminating at VT Route 127 in Colchester.¹¹⁴ The proposed highway alternative was sectioned into ten segments.¹¹⁵ Segment A–B would run north and slightly east from I-89 in Williston to Essex and service the IBM plant.¹¹⁶ Segments C–F, which have been constructed, run in an arc to the north and west around Essex Junction.¹¹⁷ Segments G–J would run from Essex to the west and slightly north through Colchester, ultimately connecting with existing Route 127, which services Burlington's new north end.¹¹⁸ The proposed highway alternative would have several exits along the way, including two interchanges with I-89 and other interchanges with major roads such as VT 117, VT 2A and Susie Wilson Road.¹¹⁹

The 1986 FEIS is a flawed document. It did not consider certain transportation alternatives such as rail transit or a land-use-based

109. 42 U.S.C. § 4321–4370f (2000); VT. AGENCY OF TRANSP., CHITTENDEN COUNTY CIRCUMFERENTIAL HIGHWAY, 1986 FINAL ENVIRONMENTAL IMPACT STATEMENT (1986), available at <http://www.aot.state.vt.us/EIS/FEIS86.htm> [hereinafter VTRANS, 1986 FEIS].

110. CCMPO, FACT SHEET, *supra* note 85, at 6.

111. See VTRANS, 1986 FEIS, *supra* note 109, at 61 (“Construction of a new limited access highway to meet Chittenden County’s regional transportation needs was a clear choice over the [other alternatives] . . .”).

112. See, e.g., *id.* at S-2 (playing down significant environmental impacts by describing impacted parkland as “not considered to be essential to the future use and enjoyment of the remaining parkland area” and stating that VTrans would work “to minimize construction impacts of stream crossings”).

113. *Id.* at 177; *Senville v. Peters*, 327 F. Supp. 2d 335, 347 (D. Vt. 2004).

114. VTRANS, 1986 FEIS, *supra* note 109, at 35.

115. *Senville*, 327 F. Supp. 2d at 341.

116. *Id.* at 342.

117. *Id.*

118. *Id.* at 349.

119. VTRANS, 1986 FEIS, *supra* note 109, at 43.

alternative,¹²⁰ alternatives that have been shown to have promise over the last eighteen years. The FEIS did not examine the cumulative environmental impacts—the impacts of the highway combined with other major projects such as other road widenings.¹²¹ It assumed that no new growth would occur from the highway, despite stating that the CCCH would alleviate restrictions on economic development within the county.¹²² The FEIS also did not look at certain air-quality impacts.¹²³

At the time, environmental groups in the state were concerned about the highway, but their input into the EIS process was somewhat limited.¹²⁴ For the EIS, written input from organized, local non-profit environmental groups consisted of a four-page letter from the Vermont Natural Resources Council (VNRC) and a two-page letter from the Vermont Group of the Sierra Club written in response to the 1985 Draft EIS.¹²⁵ The VNRC letter generally expressed concern over potential growth impacts from the project, which the VNRC insisted must be analyzed, as well as concerns over what VNRC viewed as a poorly articulated and unclear purpose for the highway.¹²⁶ The VNRC letter also criticized the DEIS for failing to consider alternatives to the highway.¹²⁷ But while VNRC made general recommendations of alternatives, it did not lay out any specifics.¹²⁸ The

120. *See Senville*, 327 F. Supp. 2d at 347–48 (“[T]he alternatives section of this document is hardly a model of rigorous exploration.”); DMJM + HARRIS, BURLINGTON-ESSEX CORRIDOR ALTERNATIVES ANALYSIS: PHASE 1A REPORT 4-27 to -72 (2002) [hereinafter DMJM & HARRIS] (discussing commuter-rail alternatives for the Burlington region).

121. *Senville*, 327 F. Supp. 2d at 348. Applicable regulations define a cumulative impact analysis as:

the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

40 C.F.R. § 1508.7 (2005).

122. *Senville*, 327 F. Supp. 2d at 366; *see also* VTRANS, 1986 FEIS, *supra* note 109, at 178 (stating that the No Action alternative would “limit future economic development opportunities” and “inhibit future economic development”).

123. *Senville*, 327 F. Supp. 2d at 358–59.

124. *See, e.g.*, Letter from Shelly McSweeney, Vt. Natural Res. Council Representative & Eric Palola, Assoc. Dir., Vt. Natural Res. Council, to Sec’y Susan C. Crampton, Vt. Agency of Transp. (Sept. 30, 1985) [hereinafter VNRC 1985 DEIS Comment Letter] (on file with author) (offering comments critical of the CCCH and the 1985 Draft EIS); Letter from Diane Geerken, Vt. Group, Sierra Club to Susan C. Thompson, Secretary, Vt. Agency of Transp. (Sept. 19, 1985) [hereinafter Sierra Club 1985 DEIS Comment Letter] (on file with author) (same).

125. VNRC 1985 DEIS Comment Letter, *supra* note 124; Sierra Club 1985 DEIS Comment Letter, *supra* note 124.

126. VNRC 1985 DEIS Comment Letter, *supra* note 124, at 1.

127. *Id.* at 2.

128. *Id.* For example, VNRC suggested that a bicycle corridor be added to any alignment and

Sierra Club comments were also brief, focusing on impacts to wetlands, park lands, a unique pine patch in an affected woodland, and the DEIS's failure to look at secondary growth impacts.¹²⁹

Also, shortly after the FEIS was issued, as a result of a challenge to a state land use permit that was brought by environmentalists, an agreement for mitigation was entered into by VTrans and incorporated into the state land use (Act 250) permit for the project.¹³⁰ This agreement was supposed to address agricultural land use concerns by having the CCCH host towns (Williston, Essex, and Colchester) establish mitigation programs to preserve farmland.¹³¹

The FEIS itself was not legally challenged at the time of its release. In October 1993, Segments C–F between VT 117 and VT 2A in Essex and a relocated Susie Wilson Road, also in Essex, were completed as a two-lane road.¹³² No further construction occurred. Meanwhile, during the 1990s, political support for the CCCH eroded somewhat. For instance, the Burlington City Council voted not to support the project in 1998.¹³³ In the late 1990s, further efforts were made to form an alliance of rural outlying towns and core cities to defeat the CCCH at the CCMPO.¹³⁴ However, these efforts fell short and the CCMPO continued to support the highway.¹³⁵

Also in the late 1990s, certain local environmental groups made

that buses, park and rides, shuttle services, carpool lanes, and other alternatives be looked at as ways of scaling back the project. *Id.*

129. Sierra Club 1985 DEIS Comment Letter, *supra* note 124.

130. Vt. Agency of Transp., Land Use Permit No. 4C0718, Circumferential Highway (Dec. 5, 1988).

131. *Id.* at 2; *see also* HUMSTONE SQUIRES ASSOCS. & VT. GEOGRAPHIC INFO. SYS., UNIV. OF VT., AN ASSESSMENT OF THE SECONDARY IMPACTS OF THE CHITTENDEN COUNTY CIRCUMFERENTIAL HIGHWAY ON AGRICULTURAL LAND vii–viii (1987) [hereinafter HUMSTONE SQUIRES] (outlining the recommended steps towns can take to mitigate the highway construction); e-mail from Attorney Mark Sinclair, Senior Attorney, Conservation Law Found., to author (Dec. 7, 2004). The agreement also required a study that was commissioned by a local non-profit, the Vermont Land Trust, which focused on the CCCH's impact on farmland in the county. HUMSTONE SQUIRES, *supra*, at i. The report ultimately echoed the conclusions of the FEIS finding that “[a] circumferential highway will not cause growth or development; rather, it will influence the distribution of that growth.” *Id.*

132. CCMPO, FACT SHEET, *supra* note 85, at 2.

133. TAXPAYERS FOR COMMON SENSE & FRIENDS OF THE EARTH, ROAD TO RUIN: THE 50 WORST PROJECTS IN AMERICA THAT WOULD WASTE TAX DOLLARS, HARM OUR COMMUNITIES AND DAMAGE THE ENVIRONMENT 53 (1999) [hereinafter TAXPAYERS FOR COMMON SENSE & FOE]; *see* e-mail from Chapin Spencer, Burlington City Council Member 1998–2004, to author (Dec. 8, 2004, 09:38:45 EST) (on file with author) [hereinafter Spencer e-mail] (confirming that there were several resolutions against the CCCH passed by the Burlington City Council).

134. *See* Spencer e-mail, *supra* note 133 (“[T]here was an effort among advocates to create a urban/rural alliance against the [CCCH] at the regional level—especially at the CCMPO.”).

135. *Id.*; *see also* TAXPAYERS FOR COMMON SENSE & FOE, *supra* note 133, at 53 (noting that the CCMPO approved \$32 million in funding for the project in 1998).

stopping the highway a priority, putting forth educational materials opposing the highway and preparing for possible legal challenges to the project.¹³⁶ The highway received further attention from national environmental and governmental watchdog groups as an example of a wasteful and sprawl-inducing transportation investment.¹³⁷ Nevertheless, the CCCH remained alive, even without the occurrence of any additional construction.

C. The CCCH Becomes a Priority for Policy Makers

Early this decade, economic, procedural, and political factors aligned to make completion of the CCCH a front-burner issue for Chittenden County. In 2002, IBM had significant layoffs at the Vermont plant.¹³⁸ Given the age of the plant and other uncertainties in the technology sector, jitters formed in the Burlington community regarding IBM's future.¹³⁹ Desiring to help

136. See, e.g., Vt. Pub. Interest Research Group (VPIRG), *Chomp! There Goes the Neighborhood*, <http://web.archive.org/web/20060213161523/http://www.vpirg.org/campaigns/sustainableVermont/circ.html> (last visited Apr. 21, 2007) (criticizing the proffered rationales of the CCCH). VPIRG allied with the Conservation Law Foundation (CLF) to form the Vermont Transportation Alliance to oppose the CCCH project and provide education for the public on alternative growth models. Vt. Pub. Interest Research Group, *Transportation*, <http://web.archive.org/web/20050909235703/http://vpirg.org/campaigns/sustainableVermont/transportation.html> (last visited Apr. 21, 2007) (consisting of a fact sheet published by a coalition of environmental groups, including VPIRG, CLF, FOE, and Sierra Club, prior to the issuance of the EA as part of an educational effort regarding the negative impacts of the CCCH).

137. E.g., TAXPAYERS FOR COMMON SENSE & FOE, *supra* note 133, at 53; SIERRA CLUB, SMART CHOICES, LESS TRAFFIC (2002), available at <http://www.sierraclub.org/sprawl/report02/images/sprawlmap2.pdf> (listing the CCCH as a "Caution! Wrong Way" project).

138. See Aki Soga, *IBM Fires 988 in Vermont: 'Body Blow' to Economy*, BURLINGTON FREE PRESS, June 5, 2002, at 1A (describing the layoff of 988 workers as "one of the largest single job cuts in the state's history").

139. IBM has stated that it views the CCCH as being important to the overall functioning of its plant. See Virginia Lindauer Simmon, *A Big Fish in Chips: IBM's Essex Junction Plant Is One of the World's Top Producers of Semiconductor Technology*, BUS. PEOPLE VT., Mar. 3, 2002, available at <http://www.vermontguides.com/2002/3-mar/ibm.html> (quoting an IBM official stating, "[b]ecause [IBM doesn't] have [the CCCH], it has raised significant concerns about traffic, and it becomes an issue when we try to build or do other activities that require permits"); Editorial, *The Circ Roadblock*, BURLINGTON FREE PRESS, May 16, 2004, at 8C ("The road also is important to IBM, which has major traffic flow problems at its facility."). Likewise, many businesses and development interest groups have become advocates of the CCCH as well, ostensibly claiming that it is needed to bring Chittenden County's infrastructure in line with the needs of the modern era and to promote job creation and economic growth. See 2003 FALL NEWSLETTER (Greater Burlington Industrial Corp., Burlington, Vt.), 2003, available at <http://web.archive.org/web/20050204170738/http://www.vermont.org/gbic/fall03.html>; ETHAN ALLEN INST., COMMENTARY, LESSONS FROM THE IBM LAYOFFS, (2001), available at http://ethanallen.org/commentary.php?commentary_id=180 (stating, from the perspective of a pro-business think tank, that "[when choosing where to cut company jobs] one might suspect that [IBM]

IBM, certain politicians and business leaders hoped constructing the CCCH would foster economic growth and secure IBM's future in the area.¹⁴⁰ Key among these politicians was Jim Douglas, the Republican State Treasurer elected Governor in 2002, who has made constructing the CCCH a priority of his administration.¹⁴¹

Also, a reevaluation of the 1986 FEIS was presented for comment in August 2002.¹⁴² The reevaluation of the FEIS, which took shape as an Environmental Assessment (EA) (a document intended to assess whether a project's environmental impacts are substantial enough to warrant a full study), spanned about 1000 pages.¹⁴³ It concluded that an update or supplement of the 1986 FEIS was not needed in order for the next phase of the project to proceed.¹⁴⁴ Extensive comments on the EA were filed by several environmental groups, concerned citizens,¹⁴⁵ and, most notably, the U.S. Environmental Protection Agency (EPA) criticizing the conclusions of

included [in its decision-making] the continued stalling of the Circumferential Highway, which IBM considers very important for getting supplies, products, and its 8000 employees in and out of its job site").

140. See Matt Sutkoski, *Circ Highway Path Opens Up*, BURLINGTON FREE PRESS, Nov. 1, 2002, at 1B [hereinafter Sutkoski, *Path Opens Up*] (stating that political support for the CCCH has increased due to Vermont's worsening economy and IBM's assertion that the project is important to the Essex Junction plant); Matt Sutkoski et al., *The Long, Winding Road: Circ Delays Leave Towns in Limbo*, BURLINGTON FREE PRESS, May 22, 2004, at 1A (quoting Town Managers in Essex and Colchester stating that IBM may leave unless the CCCH is built); Sue Robinson, *Dean: State Limited in Influencing IBM*, BURLINGTON FREE PRESS, May 14, 2002, at 1A (citing business leaders as stating that building the CCCH is an important measure in ensuring IBM's future in Vermont).

141. See Press Release, Governor Jim Douglas, Governor Douglas Breaks Ground on Circ. Highway: Ceremony Represents Commitment to Job Creation (Dec. 17, 2003), available at <http://www.vermont.gov/tools/whatsnew2/index.php?topic=GovPressReleases&id=429&v=Article> [hereinafter Press Release, Governor Jim Douglas, Douglas Breaks Ground] (noting that in a ceremonial groundbreaking for the highway that occurred before progress was halted by a court ruling, Governor Douglas expressed his fondness for highways, stating, "I will continue to fight for critical transportation projects across the state [such as] the Circ Highway"); Andy Netzel, *Circ Rebid Can't Smooth All the Bumps*, BURLINGTON FREE PRESS, Dec. 17, 2003, at 1A (quoting Governor Douglas, who said that "[t]his Circ is a major priority for me").

142. VT. AGENCY OF TRANSP. & FED. HIGHWAY ADMIN., EA REEVALUATION (2002) [hereinafter VTRANS & FHWA, 2002 EA] (on file with author).

143. Regulations state that an EA should be a "concise" document that "[b]riefly provide[s] sufficient evidence and analysis" for detailing whether to prepare an EIS or a "Finding of No Significant Impacts" (FONSI). 40 C.F.R. § 1508.9 (2005).

144. See VTRANS & FHWA, REA, *supra* note 77, at ES-13 ("As a result of th[is] August 15, 2003 Revised EA/Reevaluation, no new or additional significant project impacts differing from those set forth in the 1986 CCCH FEIS have been identified.")

145. Unlike the brief comments filed in 1985, environmental groups such as CLF, FOE, VPIRG, Sierra Club, and VNRC filed comments that ultimately numbered in the hundreds of pages and contained extensive analyses of why the highway would not provide the benefits detailed in the EA and FEIS, as well as the negative environmental impacts the highway would have. VTRANS & FHWA, REA, *supra* note 77, at app.G (Comments).

the EA.¹⁴⁶ EPA called for a Supplemental EIS to be performed.¹⁴⁷

However, due in large part to lobbying of the Bush Administration by then-GOP candidate Jim Douglas, who at the time was locked in a tough race with his Democratic opponent, the CCCH was picked for expedited NEPA review by the Administration in October 2002 under Executive Order 13274.¹⁴⁸ That same month, shortly after the Administration picked the CCCH for fast-track review, Vermont's Senators Leahy and Jeffords wrote a letter urging the Federal Highway Administration (FHWA) and EPA to cooperate with each other to "advance consideration of priority transportation projects."¹⁴⁹ FHWA released a Revised EA (REA) in May 2003, largely echoing the first EA, with a final Record of Decision released in August 2003.¹⁵⁰ Once the REA became politicized, EPA did not object to it.¹⁵¹

In early 2003, Governor Douglas requested, and the State Assembly approved, funding to begin construction on segments A–B of the CCCH.¹⁵² FHWA issued a Record of Decision approving the project on August 22,

146. Letter from Robert W. Varney, Region I Adm'r, U.S. Env'tl. Prot. Agency, to Kenneth R. Sikora, Jr., Env'tl. Program Manager, Fed. Highway Admin. 2–3 (Sept. 6, 2002), *available at* http://www.epa.gov/boston/nepa/pdfs/f_chittenden_AF_090602.pdf [hereinafter Varney Letter].

147. *See id.* at 3 (“[W]e believe that a supplemental EIS would best inform the public on the most cost-effective and environmentally sound manner in which to improve the transportation system in Chittenden County.”).

148. *See* Nancy Remsen, *Circ Closer to Construction*, BURLINGTON FREE PRESS, May 1, 2003, at 1A (“In the fall, Gov. Jim Douglas used his friendship with President Bush to put the next 3.8-mile leg of the highway on a list of projects eligible for fast-track review by federal agencies.”); Sutkoski, *Path Opens Up*, *supra* note 140, at 1B (“Republican gubernatorial candidate Jim Douglas . . . lobbied White House officials for the [fast track] designation.”); Nancy Remsen, *Feds Place Circ Highway on Fast Track*, BURLINGTON FREE PRESS, Oct. 31, 2002, at 1B (describing then-candidate Douglas’s lobbying of Vice President Dick Cheney for fast-track review of the CCCH at a fundraiser for Douglas attended by Cheney). This September 2002 order sought “to expedite or ‘streamline’ the environmental review process for a select group of high priority transportation projects.” ENVTL. DEF. & NATURAL RES. DEF. COUNCIL, *DO FASTER TRANSPORTATION PROJECT REVIEWS DELIVER BETTER STEWARDSHIP?: AN ANALYSIS OF EXPERIENCE WITH EXPEDITED REVIEWS UNDER EXECUTIVE ORDER 13274*, at 2 (2004), *available at* http://www.environmentaldefense.org/documents/3644_ExecOrderReport2004.pdf [hereinafter ED & NRDC] (quoting Exec. Order No. 13,274, 67 Fed. Reg. 59,449, 59,449 (Sept. 18, 2002)).

149. Letter from Senator Patrick Leahy, U.S. Senate, & Senator James Jeffords, U.S. Senate, to the Honorable Christine T. Whitman, Adm'r, U.S. Env'tl. Prot. Agency, & the Honorable Mary E. Peters, Adm'r, U.S. Dep't of Transp., Fed. Highway Admin. (Oct. 1, 2002) (on file with author).

150. *See* ED & NRDC, *supra* note 148, at 11 (noting that the REA and Record of Decision did not find “any new significant impacts on the human environment that was not previously evaluated in the FEIS”).

151. Press Release, Governor Jim Douglas, Governor Douglas Announces Agreement on Circ Highway (Apr. 30, 2003), *available at* <http://www.vermont.gov/tools/whatsnew2/index.php?topic=GovPressReleases&id=424&v=Article>.

152. 2003 Vt. Acts & Resolves 175.

2003.¹⁵³ Environmental groups and concerned citizens who had commented on the project filed suit in October 2003 to force a Supplemental EIS.¹⁵⁴ That suit succeeded, as is discussed in the following Part.¹⁵⁵

III. NEPA REVIEW OF THE CCCH: LEGAL AND POLICY SHORTCOMINGS

NEPA was signed into law in 1970 to ensure that a thorough review of the environmental impacts of major federal actions—including federally funded projects—takes place.¹⁵⁶ NEPA directs federal agencies to:

include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on—(i) the environmental impact of the proposed action, (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented, (iii) alternatives to the proposed action, (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.¹⁵⁷

Thus, NEPA sets up a process requiring environmental assessment and study of an agency's actions, but it does not dictate a particular outcome.¹⁵⁸ While agencies must give the environmental impacts of a project a "hard look," NEPA "merely prohibits uninformed—rather than unwise—agency action."¹⁵⁹

153. ED & NRDC, *supra* note 148, at 11.

154. See Complaint at 154, *Senville v. Peters*, 327 F. Supp. 2d 335 (D. Vt. 2004) (No. 2:03-CV-279) (asking for relief that would require "the FHWA to withdraw its approval . . . until such time as the FHWA has complied with NEPA," section 4(f) of the Department of Transportation Act, the FAHA, and the APA).

155. *Senville*, 327 F. Supp. 2d at 370. Some Vermont politicians expressed the view that it was President Bush's fast-tracking of the project that led to the inadequate review and Judge Session's ruling ordering further study. Matt Sutkoski, *Circ Highway Delayed 2 Years: Bush Fast-Track Might Have Doomed It*, *Observers Say*, BURLINGTON FREE PRESS, May 12, 2004, at 1A.

156. 42 U.S.C. § 4321-4370f (2000).

157. *Id.* § 4332(C).

158. *Id.*

159. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350-51 (1989). The Court stated in *Robertson* that, "Although [NEPA's required] procedures are almost certain to affect the agency's substantive decision, it is now well settled that NEPA itself does not mandate particular results, but simply prescribes the necessary process." *Id.* at 350.

If an assessment performed by a federal agency shows that a project will have significant environmental impacts, regulations issued by the Council on Environmental Quality (CEQ) (which oversees the NEPA regulatory requirements) direct agencies to prepare both a draft EIS, which must be circulated for review and public comment, and a final EIS that responds to those comments.¹⁶⁰ CEQ regulations mandate that a final EIS be supplemented if “the agency makes substantial changes in the proposed action . . . or [if] [t]here are significant new circumstances or information” concerning the environmental impacts of the proposed action.¹⁶¹

Also, under separate FHWA regulations, if a project does not commence within three years of the final EIS, FHWA must perform a reevaluation study to determine if there are new impacts or changes that require further study.¹⁶² In such circumstances, FHWA regulations require that the reevaluation assess whether the project presents changes, new information, or new circumstances requiring a supplemental EIS (SEIS).¹⁶³ Further, where FHWA is uncertain of the environmental impacts of a project it must evaluate, it may require an Environmental Assessment (EA) “to assess the changes, new information, or new circumstances” regarding a project.¹⁶⁴ An EA must “include brief discussions of the need for the proposal of alternatives [to the proposed action], of the environmental impacts of the proposed action . . . and a list of agencies and persons consulted.”¹⁶⁵

Judicial review of federal agency actions under NEPA is governed by

160. 40 C.F.R. § 1502.9(a)–(b) (2005). If a project does not have significant impacts, agencies are still required to document this in a FONSI. *Id.* § 1508.13; 23 C.F.R. § 771.121 (2005).

161. 40 C.F.R. § 1502.9(c)(1)(i)–(ii) (2005); *see generally* *Senville v. Peters*, 327 F. Supp. 2d 335, 343–44 (D. Vt. 2004) (describing NEPA’s statutory and regulatory framework). As the Supreme Court explained:

[T]he decision whether to prepare a supplement EIS is similar to the decision whether to prepare an EIS in the first instance: If there remains “major Federal actio[n]” to occur, and if the new information is sufficient to show that the remaining action will “affec[t] the quality of the human environment” in a significant manner or to a significant extent not already considered, a supplemental EIS must be prepared.

Marsh v. Or. Natural Res. Council (ONRC), 490 U.S. 360, 374 (1989).

162. 23 C.F.R. § 771.129(b) (2005).

163. *Id.* §§ 771.129–771.130. Under FHWA regulations, supplementation of an EIS is required whenever FHWA determines that “(1) [c]hanges to the proposed action would result in significant environmental impacts that were not evaluated in the EIS; or (2) [n]ew information or circumstances relevant to environmental concerns and bearing on the proposed action or its impacts would result in significant environmental impacts not evaluated in the EIS.” *Id.* § 771.130(a).

164. *Id.* § 771.130(c); *Senville*, 327 F. Supp. 2d at 343. An EA is a public document that provides “sufficient evidence and analysis” to determine whether the agency needs to prepare an EIS (or SEIS), or whether it can issue a FONSI. 40 C.F.R. § 1508.9(a)(1) (2005).

165. 40 C.F.R. § 1508.9(b) (2005).

the Administrative Procedure Act (APA).¹⁶⁶ The APA allows a court to hold unlawful and set aside an agency action under NEPA if the action is arbitrary and capricious,¹⁶⁷ “an abuse of discretion, or otherwise not in accordance with the law, . . . [or] without observance of procedure required by law.”¹⁶⁸ Therefore, for a court to find that NEPA was not complied with, it generally must find that the agency “relied on factors which Congress has not intended it to consider, entirely failed to consider an important part of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.”¹⁶⁹

NEPA demands the type of comprehensive analysis of a project’s environmental impacts that, if performed well, can often aid in producing decisions that achieve social objectives in a cost-effective and environmentally sound manner. Though NEPA has certainly been beneficial in forcing agencies to consider the consequences of potentially destructive projects and has led to the abandonment of several environmentally harmful projects such as the Everglades Airport and the Overton Park Greenway, it still has its flaws. Given NEPA’s procedural nature and a standard of judicial review that is largely deferential to the agency, an agency can perform a legally sound NEPA review that still results in a poor decision. For instance, while an agency cannot “entirely fail to consider” an important part of a project, an agency is not necessarily being unlawful if it does not give the most searching consideration to a matter.¹⁷⁰ Also, NEPA does not require reviewing agencies to use the best available scientific methodology.¹⁷¹ NEPA further gives agencies a fair amount of discretion in scoping the alternatives to be examined.¹⁷²

166. *Marsh*, 490 U.S. at 375; *Senville*, 327 F. Supp. 2d at 344 (citing *Sierra Club v. U.S. Army Corps of Eng’rs*, 772 F.2d 1043, 1050 (2d Cir. 1985)).

167. This requires that the agency base its decision upon relevant factors and not make a “clear error of judgment.” *Senville*, 327 F. Supp. 2d at 345 (quoting *Marsh*, 490 U.S. at 378).

168. *Id.* at 344 (quoting 5 U.S.C. § 706 (2)(A), (D) (1996)).

169. *Id.* at 344–45 (quoting *Natural Res. Def. Council, Inc. v. Muszynski*, 268 F.3d 91, 97 (2d Cir. 2001)).

170. *See, e.g., id.* at 344–45 (stating reasons why an agency decision can be set aside).

171. *Laguna Greenbelt, Inc. v. U.S. Dep’t of Transp.*, 42 F.3d 517, 526 (9th Cir. 1994); *Sierra Club, Ill. Chapter v. U.S. Dep’t of Transp.*, 962 F. Supp. 1037, 1043 (N.D. Ill. 1997) (citing *Sierra Club v. Marita*, 46 F.3d 606, 623 (7th Cir. 1995)).

172. *Laguna Greenbelt*, 42 F.3d at 524 (“The range of alternatives that must be considered in the EIS need not extend beyond those reasonably related to the purposes of the project.”); *Friends of Se.’s Future v. Morrison*, 153 F.3d 1059, 1066–67 (9th Cir. 1998) (noting that agencies are afforded considerable discretion in defining the purpose and need of a project, and are held to a “reasonableness” standard). The court ruled that “[t]he agency must look at every reasonable alternative *within the range dictated by the nature and scope of the proposal.*” *Id.* at 1065 (emphasis added).

Agencies additionally do not need to consider a “worst case” scenario under NEPA.¹⁷³

A. *The REA: An Overview*

As discussed above, FHWA simply cannot rely on an old FEIS to go forward with a project. It must at least do a reevaluation study to determine if an SEIS is needed. One of the guiding factors in determining if an SEIS should be prepared is whether there are significant new impacts from the project that were not originally considered.¹⁷⁴ To determine if an action’s impact is significant, CEQ regulations require a federal agency to evaluate the “context” and “intensity” of an action.¹⁷⁵ As can be inferred from the term, context requires the federal agency to look at the action in relation to the affected society, region, interests, and locality.¹⁷⁶ Intensity addresses the severity of the action and requires the federal agency to consider a variety of factors such as “[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts” and “[w]hether the action threatens a violation of Federal, State, or local law” such as the Clean Water Act or Clean Air Act.¹⁷⁷

Given the age of the 1986 FEIS and the changes that have occurred in Chittenden County, a re-evaluation of the FEIS was required.¹⁷⁸ For the CCCH, this study took the form of the EA and REA. FHWA and VTrans concluded that there were no new environmental impacts from the highway that needed to be considered, and a then-seventeen-year-old study would suffice as a current review of the impacts of, and alternatives to, the CCCH.¹⁷⁹ In many ways, the conclusions reached by these studies seem incredible. Chittenden County is quickly becoming a suburban area, and this trend is resulting in many environmental impacts.

Soon after FHWA and VTrans issued a record of decision approving the highway in August 2003, the REA and FEIS were challenged in court

173. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 354 (1989).

174. 40 C.F.R. § 1502.9(c)(1)(ii) (2005); 23 C.F.R. § 771.130(a) (2005); *Senville v. Peters*, 327 F. Supp. 2d 335, 343 (D. Vt. 2004) (quoting 23 C.F.R. § 771.130(a)).

175. *Senville*, 327 F. Supp. 2d at 356 (citing 40 C.F.R. § 1508.27 (2005)).

176. 40 C.F.R. § 1508.27(a) (2005).

177. *Id.* § 1508.27(b).

178. *See* 23 C.F.R. § 771.129(b) (2005) (requiring a reevaluation of an EIS when major steps to commence the action have not happened in three years).

179. *See* VTRANS & FHWA, 2002 EA, *supra* note 142; VTRANS & FHWA, REA, *supra* note 77, at VI-1 (“The [REA] has identified and assessed CCCH project changes . . . that have occurred since the publication of the 1986 CCCH FEIS. . . . No additional or new significant environmental impacts have been identified.”).

by a group of concerned citizens and environmental groups.¹⁸⁰ While upholding many aspects of the REA and FEIS, Judge William Sessions of the Federal District Court for the District of Vermont found that the REA and FEIS were illegal due largely to a failure to look at alternatives and an inadequate examination of the CCCH's growth impacts.¹⁸¹ An appeal of the decision was filed by the government in 2006 but dropped before it proceeded.¹⁸²

B. FHWA's Purpose and Need: A Narrow Justification Limiting Alternatives

NEPA regulations require that there be a stated "purpose and need" for a proposed action.¹⁸³ Regulations provide that a purpose and need statement "briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action."¹⁸⁴ However, the agency is given considerable latitude in determining the purpose and need of the action.¹⁸⁵ Since the alternatives to be considered relate to the purpose and need cited by the agency, this gives the agency substantial power over the scope of alternatives that need to be examined.¹⁸⁶

For the CCCH, the purpose and need of the REA presented an excellent opportunity for FHWA and VTrans to ask how Vermont could best invest in a transportation solution that would be most effective in addressing congestion, have the lowest cost, and comport with Vermont's growth goals and aims of exemplary environmental stewardship. Instead, FHWA and VTrans chose a purpose and need that narrowly focused on the question of whether the CCCH could reduce congestion at select intersections and road segments. This purpose and need statement shortchanged the NEPA study by limiting the range of alternatives.

The REA looked to the 1986 FEIS to define the purpose and need of

180. *Senville*, 327 F. Supp. 2d at 340.

181. *See id.* at 370 (determining NEPA requires an "analysis of the cumulative and secondary impacts of a project" as well as "at least a brief discussion of alternatives").

182. *State, Feds Drop Appeal of Circ Ruling*, BURLINGTON FREE PRESS, Jan. 13, 2007, available at <http://www.smartgrowth.org/news/article.asp?art=5843&State=46&res=1024> (article title at this location: "*FHA, VAT Drop Appeal of Decision Halting Chittenden County Circ Construction*").

183. 40 C.F.R. § 1502.13 (2005).

184. *Id.*

185. *See Davis v. Mineta*, 302 F.3d 1104, 1119 (10th Cir. 2002) (noting that "the purpose of a project is a slippery concept, susceptible of no hard-and-fast definitions") (internal quotations omitted).

186. *See, e.g., Laguna Greenbelt, Inc. v. U.S. Dep't of Transp.*, 42 F.3d 517, 524 (9th Cir. 1994) ("The range of alternatives that must be considered in the EIS need not extend beyond those reasonably related to the purposes of the project.").

the CCCH. It stated that:

The need for the project, identified in the 1986 CCCH FEIS, is to reduce existing and future traffic congestion, to assist local roads to function within their design and operational capabilities, and to improve safety and traffic efficiency in the project area. This project is supported by the 2002 Traffic Report The purpose and need for the project, as identified in the 1986 CCCH FEIS, remains valid and supports the continued development of the project.¹⁸⁷

In sum, the purpose and need for the CCCH, as identified by the FEIS and REA, are: (1) to reduce existing and future traffic congestion; (2) to assist local roads to function within their design and operational capacities (largely by providing an arterial road to take traffic off these local roads); and (3) to improve safety and traffic efficiency in the project area.¹⁸⁸

While the REA concluded that the CCCH will meet the purpose and need, the REA's own data shows that the CCCH will only marginally make localized traffic flow more efficiently.¹⁸⁹ The REA has forecasted that some intersections and road segments will receive slight-to-moderate improvement because of the CCCH, while others will see no improvement or will be worse because of it.¹⁹⁰ This indicates that, as is typical of

187. VTRANS & FHWA, REA, *supra* note 77, at ES-6.

188. *Id.*

189. See *Senville v. Peters*, 327 F. Supp. 2d 335, 355 (D. Vt. 2004) (stating that the construction of segments A and B of the CCCH will only save commuters seven seconds of travel time during evening rush hour). EPA, in its initial comments, also questioned whether the project met the purpose and need, stating that “[t]he predicted improvements in performance of the transportation system if the highway is built appear to be modest.” Varney Letter, *supra* note 146, at TA-1. EPA also questioned whether the models properly accounted for induced travel. *Id.* Moreover, even though the *Senville* court found FHWA's and VTrans's methods acceptable, the analysis they performed had some arguable flaws. For instance, the REA did not analyze the phenomenon of induced travel. See Comments of Michael Oman, on Revised, May 2003 Environmental Assessment: Chittenden County Circumferential Highway; Reevaluation of 1986 FEIS; Segments A–F, Traffic Supplements 1 and 2, available at http://clf.org/uploadedFiles/CLF/Programs/Smart_Growth/Fight_Sprawl/The_Circ/comments_20030616_circ.pdf [hereinafter Oman Comments]. Induced travel is the well-documented phenomenon where traffic growth occurs when capacity is expanded, and drivers take advantage of the increased capacity rather than seeking other modes of transportation. EPA, OBNE, *supra* note 10, at 22. FHWA and VTrans contend that induced travel, while not directly accounted-for in the traffic model used, will be small and is thus largely accounted for in the travel demand projections and induced growth analysis. VTRANS & FHWA, REA, *supra* note 77, at 3–8 app.G att.B. Yet, by not taking this phenomenon into account, the slim benefits of the CCCH detailed in the REA may be potentially exaggerated.

190. For instance, the following segments will see traffic increases from construction of the CCCH: Route 2A from Pinecrest Street to Route 289 will see a 4% AM/2% PM peak-hour increase with partial construction and a 3% AM/10% PM peak-hour increase with full construction; Route 15 from Allen Martin Drive to Jericho in Essex will see a 5% peak-hour increase with partial construction and a

highway construction, the CCCH will merely shift traffic patterns in the region from some roads to others. The REA has also revealed that certain segments of the CCCH itself will operate at a heavily congested level of service (LOS).¹⁹¹ In addition, the REA's analysis has shown that a substantial increase in traffic on the area's interstate system will result from the construction of the CCCH, as traffic is funneled from local roads to the interstate.¹⁹²

The REA has cited some seemingly impressive numbers regarding increased efficiency. For instance, the REA projects a total savings in travel time region-wide in the year 2023 of 17,636 minutes for construction of Segments A and B, and 53,572 minutes for full construction.¹⁹³ Yet, when they are boiled down to per-trip savings, the numbers are paltry—a total per-trip savings of about thirty-four seconds for full construction.¹⁹⁴ If only partial construction (Segments A and B in Williston plus the already built sections) occurs, the per-trip savings will be about eleven seconds.¹⁹⁵

These slim benefits become even more troubling when weighed against the costs of the highway, which are staggering for Vermont in dollar amounts and potential environmental consequences. Since Judge Sessions did not consider the legality of the purpose and need statement, FHWA and VTrans are not obligated to change it in future studies. In a new study

24% AM/20% PM peak-hour increase with full construction; Route 117 from Route 289 to Sand Hill Road in Essex will see a 26% AM/16% PM peak-hour increase with partial construction; Mountain View Road from Route 2A to Redmond Road will see a 4% AM/17% PM peak-hour increase with partial construction and a 5% AM/17% PM peak-hour increase with full construction; Sand Hill Road from Route 117 to Allen Martin Connector will see an 8–10% increase with partial construction; and Sand Hill Road from East-West Connector to Route 15 will see a 9% AM/12% PM peak-hour increase with partial construction and a 61% AM/51% PM peak-hour increase with full construction. VTRANS & FHWA, REA, *supra* note 77, at 39 app.D, 39 app.D tbl.6.

191. *See id.* at 50 app.D, 50 app.D tbl.12 (detailing percent-time-spent-following (PTSF), Speed, and LOS conditions for north- and south-bound traffic on Segment B between Redmond Road and Route 117).

192. The CCCH is projected to substantially increase traffic on the area's existing interstate system (I-89 and I-189) in exchange for a reduction in congestion on certain local roads. Whether either a full build or a partial build (segments A and B in Williston, plus the existing segments C–F in Essex) is constructed, congestion on the interstates is projected to increase by 14%–15% in 2023 compared with not building the CCCH. *Id.* at 66–67 app.D tbl.22. An additional concern regarding this increase in congestion on the interstate system is that it may require widening of the current interstate, consuming more transportation dollars that might go towards investments in transit or other transportation alternatives. There is already discussion at the CCMPO regarding widening I-89 from four to six lanes between Williston and Winooski. *See* Press Release, Chittenden County Metropolitan Planning Organization, New Transportation Options To Be Considered (Oct. 6, 2003), <http://www.ccmpto.org/newsroom/releases/10-06-03.html> (“Projects identified for future study include: widening I-89 from four to six lanes . . .”).

193. VTRANS & FHWA, REA, *supra* note 77, at 68 app.D.

194. Oman Comments, *supra* note 189.

195. VTRANS & FHWA, REA, *supra* note 77, at ES-22.

initiated as a result of the court's decision, FHWA and VTrans refocused the purpose and need to narrowly address "congestion, safety, and mobility issues" within the corridor from Williston to Essex and the Village of Essex Junction (the A–B corridor) without considering the rest of the proposed highway.¹⁹⁶ This limited purpose and need does no more than the REA to account for growth challenges in the county. It does not appear to promise any better result than that of the REA.

C. False Accounting: Segmenting the Highway to Justify Its Need

The REA used convenient accounting when talking about the benefits and costs of the highway. It counted the benefits of a fully built, four-lane highway; however, it only discussed the costs of Segments A–B. Additionally, FHWA and VTrans view partial completion of the highway as a justification to finish it. This causes a segment-by-segment analysis of the highway's need that stifles a broader look at alternatives. The REA used the completed Essex Section (C–F) to demonstrate that construction of Segments A–B are needed to cope with the resulting traffic problems.¹⁹⁷ The REA has revealed that construction of A and B will actually increase VMT over the no-build alternative and that congestion relief can only be realized by full completion of the CCCH.¹⁹⁸ Given the logic presented in the REA, the purpose and need for the highway is to make a partially built highway function better, and a partially built highway can only function better by its completion. Thus, the segmentation used by FHWA and VTrans creates a self-fulfilling prophecy that excludes any alternative that does not involve completing the road.

This is likely illegal, despite Judge Session's ruling to the contrary.¹⁹⁹ Segmentation is prohibited under Department of Transportation (DOT) regulations unless certain criteria apply, mainly whether the segmented

196. CIRC-WILLISTON EIS, STATEMENT OF PURPOSE AND NEED 1, 3 (2005), http://www.circeis.org/documents/purpose_and_need/050624_WO5_Purpose_Need.pdf.

197. VTRANS & FHWA, REA, *supra* note 77, at II-17 tbl.II-g, 61 app.D. (stating that construction of Segments A and B will result in improvements to traffic conditions).

198. The REA shows that construction of Segments A and B alone will increase congested VMT in Chittenden County by 2.4% over the no-build scenario. VTRANS & FHWA, REA, *supra* note 77, at II-17 tbl.II-g. According to the FHWA model, the entire four-lane, end-to-end highway is needed to reduce the congested VMT by 2.2% over no build. *Id.*

199. Courts have noted that segmentation that leads to a commitment of action can impermissibly restrict alternatives. An action impermissibly restricts a consideration of reasonable alternatives if the action "effectively commits decisionmakers to a future course of action." *Coal. on Sensible Transp., Inc. v. Dole*, 826 F.2d 60, 69 (D.C. Cir. 1987). This commitment may happen for one of two reasons. "First, a project might appear to be an unreasonable expenditure of funds unless some related project were also completed. . . . [Second,] completion of the first project may cause the benefit/cost ratio on the second to rise sharply." *Id.* at 69–70.

portion of the project has independent utility (will function as a stand-alone project) and whether it allows for a proper analysis of environmental matters and alternatives.²⁰⁰ Judge Sessions found that FHWA's conclusion that Segments A and B have independent utility was not faulty given NEPA's deferential standard of review and the small savings in travel time the REA showed these segments would provide, but he questioned the worth of investing in just Segments A–B.²⁰¹ However, to justify Segments A and B as an action independent of the entire highway appears extremely difficult. This question will have relevance in the new study, which does not even look at the full-highway corridor but purports only to examine traffic problems in the A–B corridor.²⁰² If that study endorses the highway without attempting to analyze the full project, it will be legally suspect.

D. Evaluation of Growth and Land Use Impacts

CEQ regulations governing NEPA review require federal agencies such as FHWA to consider both the cumulative effects (the impacts of the project when added to other past, present, and reasonably foreseeable actions) and indirect effects (reasonably foreseeable impacts removed in time and distance) of their actions.²⁰³ This analysis requires a look at a

200. DOT regulations prohibit the segmentation of highway projects unless the segment will:

(1) [C]onnect logical termini and be of sufficient length to address environmental matters on a broad scope; (2) have independent utility or independent significance, i.e., be a usable and be a reasonable expenditure even if no additional transportation improvements in the area are made; and (3) not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

Senville v. Peters, 327 F. Supp. 2d 335, 353 (D. Vt. 2004) (citing 23 C.F.R. § 771.111(f) 2004)); *see also* *Patterson v. Exon*, 415 F. Supp. 1276, 1282 (D. Neb. 1976) (“Planning and building highways in a piecemeal fashion threatens to frustrate [the analysis of alternatives required by NEPA] by allowing a gradual, day-to-day growth without providing an adequate opportunity to assess the overall, long-term environmental effects of that growth.”).

201. *Senville*, 327 F. Supp. 2d at 355 (“Whether achieving a savings of seven seconds in commuter time [during evening rush hour is] . . . a wise expenditure of resources is not a judgment that this Court is permitted to make.”).

202. Notice of Intent, Environmental Impact Statement, Chittenden County, Vt., 69 Fed. Reg. 69027 (Nov. 26, 2004).

203. *See* 40 C.F.R. § 1508.25 (2005) (“To determine the scope of environmental impact statements, agencies shall consider . . . 3 types of impacts.”); *id.* § 1508.25(c) (noting these types may include: “(1) Direct; (2) indirect; (3) cumulative”); *see also id.* § 1508.7 (defining cumulative impact); *id.* § 1508.8(b) (defining indirect impact). “Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.” *Id.* Cumulative impacts are those that result “from the incremental impact[s] of an action when added to other past, present, and reasonably foreseeable future actions.” *Senville*, 327 F. Supp. 2d at 348 (citing 40 C.F.R. § 1508.7).

project's growth impacts caused or induced by the action and those from other actions affecting growth.²⁰⁴

The REA's analysis of growth impacts concluded that the CCCH's effect on growth within the county would be to "focus and give direction to the growth trend already established."²⁰⁵ Echoing the 1986 FEIS, the REA concluded that the CCCH would not create any *new* growth for the county or additional growth beyond what is predicted to occur if the highway is not built.²⁰⁶ Instead, the REA found that the CCCH would merely redirect growth away from Burlington, South Burlington, Winooski, areas south of Burlington towards Essex, and towns in the northern part of the county.²⁰⁷

Judge Sessions found the REA's growth-impact analysis to be inadequate and illegal.²⁰⁸ Judge Sessions first concluded that:

[T]he 1986 FEIS included no discussion whatsoever of cumulative impacts. It contained a sketchy acknowledgment of indirect impacts with regard to agricultural lands with no analysis or evaluation. These deficiencies cause the 1986 FEIS to fail to meet the standards for an adequate EIS for purposes of adoption by FHWA.²⁰⁹

A meaningful cumulative impacts analysis "must identify (1) the area in which the effects of the proposed project will be felt; (2) the impacts that are expected in that area from the proposed project; (3) other actions—past, present, and proposed, and reasonably foreseeable—that have had or are expected to have impacts in the same area; (4) the impacts or expected impacts from these other actions; and (5) the overall impact that can be expected if the individual impacts are allowed to accumulate."

Id. at 348 (quoting *Grand Canyon Trust v. F.A.A.*, 290 F.3d 339, 345 (D.C. Cir. 2002)).

204. *Senville*, 327 F. Supp. 2d at 365 (quoting 40 C.F.R. § 1508.8(b)).

205. *Id.* at 366 (quoting from the Administrative Record). EPA, in its comments originally critical of the EA, implied that these important questions were given inadequate attention by FHWA and VTrans. In discussing the need for a better examination of alternatives, EPA stated that

[t]his comparison [of the CCCH to alternatives such as TSM, TDM, and transit] is worthwhile given that the MPO's last transportation plan (A Twenty-Year Vision for Transportation in Chittenden County, published in 1997) concluded that on a regional scale, the single most effective approach to addressing transportation issues is the implementation of a "Growth Center"-based development pattern.

Varney Letter, *supra* note 146, at TA-1 to -2.

206. *Senville*, 327 F. Supp. 2d at 367 ("[I]t is expected that the extent of growth in Chittenden County will change less than 1% due to construction of the CCCH.").

207. See VTRANS & FHWA, REA, *supra* note 77, at ES-22 tbl.ES-4 (noting the great potential for growth in Essex, Essex Junction, Colchester, and Williston).

208. See *Senville*, 327 F. Supp. 2d at 369–70 (holding that the failure to consider numerous impacts was "arbitrary and capricious").

209. *Id.* at 365. Judge Sessions earlier wrote that the FEIS "generally . . . agreed that the project will have indirect secondary impacts on agricultural lands in the project area," *id.* at 349, but that

[t]he FEIS did not support its assumption with any analysis, nor were mitigation measures discussed. VTrans indicated that it intended to complete a study "to

The court went on to criticize the growth-impact analysis of the REA, considering two components of induced growth: “growth that would not have occurred in the region without construction [of the highway], and relocated or redirected growth that is directed to a specific area due to changes in accessibility.”²¹⁰ While the court ruled that the FHWA had relied on adequate studies to support its conclusion of no new growth from the CCCH,²¹¹ it determined that the REA failed to adequately account for the effects of redistributed growth.

Primarily, Judge Sessions found that “FHWA did not consider factors such as the detrimental social and economic impact of draining jobs and population from the region’s cities: Burlington, South Burlington, Essex Junction and Winooski.”²¹² The court also ruled that the REA failed to consider new information made available since the 1986 FEIS, which indicated that towns in Chittenden County not adjacent to the CCCH, particularly towns in the northern part of the county, would potentially be affected by its construction.²¹³ Judge Sessions stressed that the REA’s analysis did not satisfy NEPA. This analysis responded to the new information with the mere conclusion “that towns in the area will experience increased but insignificant development pressure[,]” but it failed

determine the indirect impacts on agricultural lands that would result from construction of the highway.” The FHWA protested at the time that such a study should have been done as part of the EIS process, and that if there were agricultural impacts that had not been studied for the EIS, then the FEIS should be withdrawn, and a proper agricultural land impact study completed and incorporated into a revised FEIS.

Id. (internal citation omitted). Additionally, the 1986 FEIS did not address cumulative impacts or secondary impacts on agricultural resources. *Id.*

210. *Id.* at 365.

211. *Id.* at 367, 369. In discussing plaintiffs’ objections to the methodology used by FHWA, the Court stated that:

While the Plaintiffs’ objection may prove to be well-taken, a dispute over the inputs to a computer model is the kind of technical determination that requires deference to the agency from the Court, which is constrained to determine whether or not FHWA made a “reasoned decision,” even if its conclusion is debatable. Given the wealth of opinion that supports the assumption of no significant increase in overall regional growth from construction of a circumferential highway, and the outcome of the CCMPO modeling, the Court cannot say that FHWA’s conclusion was not a reasoned decision.

Id. at 367 (internal citation omitted).

212. *Id.* at 368. Judge Sessions further wrote that, “[i]n response to comments pointing out this omission, FHWA noted that growth rates in the urban core cities have been declining for thirty years and are predicted to continue.” *Id.* The court concluded that this does not constitute a “hard look” at the effects of relocated growth in the region. *Id.*

213. *Id.*

to analyze the implications of such pressure.²¹⁴ Finally, the court found that, like the FEIS, the REA failed to examine cumulative impacts.²¹⁵

The REA's own statistics regarding the "redirected growth" that will be caused by the CCCH paint a picture of further future jobs losses and other growth in existing centers like Burlington.²¹⁶ For example, the REA found that as a result of the CCCH's construction, Burlington would lose 311 future jobs over the next twenty years.²¹⁷ Likewise, Burlington is projected to lose 148 future households over the next twenty years as a result of the CCCH.²¹⁸ On the other hand, Essex Town is projected to gain 1,106 new jobs over the next twenty years as a result of the CCCH.²¹⁹ The REA has shown that the overall increase in job-growth potential is not significant, regardless of whether or not the CCCH is constructed.²²⁰ The REA instead

214. *Id.* Judge Sessions, in discussing impacts on outlying towns, stated that:

The FREA's induced growth study . . . summarizes that while the Adjacent Towns [Hinesburg, Jericho, Milton, Richmond, St. George, Shelburne, Underhill and Westford] and Outer Towns [Bolton, Buels Gore, Charlotte and Huntington] will experience small increases in accessibility, their growth potential is affected by construction of the CCCH: "[h]owever, planning and zoning within some of these towns is less developed, and growth pressures within some of these towns may result in uneven growth patterns." The recognition that the CCCH would result in relocated growth pressure on outlying towns was "new information" that had not previously been evaluated in the 1986 FEIS. . . . The dismissive treatment of relocated growth pressures on the outlying towns in Chittenden County is inconsistent with a hard look at relocated or redirected growth, particularly when the issue was not part of the original EIS.

Id. at 69–70 (internal citation omitted).

215. *Id.* at 369. Judge Sessions explained that:

Review of the record does not reveal that Defendants took a "hard look" at cumulative impacts. Other than the bald assertion in the introduction to the induced growth study that "induced growth, as utilized in this study, includes both secondary and cumulative impacts" the court has been unable to find any discussion of cumulative impacts in the study or the FREA overall.

Id. (internal citation omitted). The court also ruled that the FREA did not account for the EIS's inadequate treatment of secondary impacts on agricultural lands by including in it a study of such effects conducted after the 1986 FEIS. *Id.* at 365. The court was primarily concerned with the fact that the study, the Humstone Squires Report, prepared in 1987, was not circulated for public comment and therefore "does not satisfy NEPA's EIS requirements" and that "the fact that the study was eventually included in an appendix to the FREA" does not satisfy NEPA because "[a]n EA is no substitute for an EIS." *Id.* at 369. The court ultimately concluded that "[n]o meaningful assessment of secondary agricultural impacts has been publicly circulated and available for public comment, as far as the record shows." *Id.*

216. VTRANS & FHWA, REA, *supra* note 77, at ES-22 tbl.ES-4.

217. *Id.* In addition to the losses in Burlington, South Burlington is projected to lose 545 future jobs and Winooski is projected to lose ten future jobs over the next twenty years if the CCCH is constructed. *Id.*

218. *Id.*

219. *Id.*

220. *See id.* at ES-19 (noting that Colchester, Essex, and Essex Junction would have the largest

demonstrated that the CCCH would not create jobs but merely move future jobs from core areas to suburban and outlying areas in the northern part of county.²²¹

Judge Sessions accepted the legality of the REA's no-new-growth conclusion on the grounds that use of technical models such as those relied on by FHWA and VTrans require deference from the court.²²² The no-new-growth conclusion belies an enormous justification for the highway. Both the FEIS and the CCCH's proponents have touted the highway as an economic talisman essential to spurring economic growth and job creation.²²³ In fact, Governor Douglas has publicly declared that building

potential job growth, but that job growth is still "minimal or limited").

221. *Id.* EPA was originally extremely critical of the failure to analyze the negative impacts to downtown areas in its comments to the EA. EPA stated that:

[I]f after study it is found to be accurate that the highway will have no impact on the extent of growth but will simply redirect and focus it, then FHWA/VTrans must disclose the negative impacts of the new development on the inner core communities that are losing population, and on existing commercial centers. The EA/Reevaluation only analyzes half the story; it does not address the negative environmental, economic, and social impacts of potentially drawing population and jobs out of the cities in Chittenden County.

Varney Letter, *supra* note 146, at TA-4. EPA went on to challenge the project's conformance with Vermont growth laws:

[W]e question whether the project conforms with Vermont's exemplary laws and regulations that discourage sprawl This project should be thoroughly analyzed to ensure that it does not undermine Vermont's land use efforts by inducing sprawl. Growth does not have to equal sprawl. Given the state's strong leadership in smart growth, and given the expense of this highway project, the public deserves a full assessment of its costs as well as benefits.

Id. at TA-5.

222. *See* *Senville v. Peters*, 327 F. Supp. 2d 335, 367 (D. Vt. 2004) ("[T]he Court cannot say that FHWA's conclusion was not a reasoned decision.").

223. The original FEIS clearly emphasized that the CCCH was needed to alleviate conditions that would restrict growth. The FEIS stated that "[t]he restricted capacity of the existing transportation network would limit opportunities for continued development within the growth area around Burlington." VTRANS, 1986 FEIS, *supra* note 109, at 177. As to other towns in the region, the FEIS went on to echo this sentiment, stating that:

In Colchester, the No Action Alternative would limit opportunities for continued development

For the Town of Essex and the Village of Essex Junction, the No Action Alternative would limit future economic development opportunities. Deteriorating levels of service on the existing roadway network would adversely affect both the businesses and the residents of these communities and would inhibit future economic development.

Id. at 178. Additionally, when the CCCH was nominated for "accelerated environmental review" under Executive Order 13274, Vermont FHWA Division Administrator Charles Basner stated that "[t]he purpose of the CCCH is to provide for economic development." Complaint at 103-04, *Senville v. Peters*, 327 F. Supp. 2d 335 (D. Vt. 2004) (No. 2:03-CV-279). In a ceremonial groundbreaking event for Segments A-B of the CCCH, current Vermont Governor Jim Douglas declared the highway important for creating jobs in the region. Press Release, Governor Jim Douglas, Douglas Breaks Ground,

the highway is part of an “aggressive job creation strategy” for his administration.²²⁴ In reality, the CCCH will create no new jobs, will have virtually no overall economic benefits, and will have clear detriments to existing growth areas.²²⁵

E. Air and Water Quality Impacts

NEPA requires that FHWA consider the air-and water-quality impacts of the highway.²²⁶ As detailed earlier, since the 1986 FEIS was performed,

supra note 141.

224. *Id.*

225. *See Senville*, 327 F. Supp. 2d at 362–63 (discussing the plaintiffs’ assertions that FHWA failed to consider lack of current and future job creation, and other economic impacts on lower income neighborhoods). Also worth noting are the potential, though arguably not severe, environmental justice impacts of the highway. As discussed previously in this article, job growth in Chittenden County is trending towards suburban areas. Suburban areas are, for the most part, a substantial distance from impoverished areas in the region, such as the Old North End in Burlington and areas in Winooski. The EPA defines environmental justice as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental law, regulations, and policies.” U.S. Evtl. Prot. Agency, Environmental Justice Homepage, <http://www.epa.gov/compliance/environmentaljustice/> (last visited Apr. 21, 2007). Pursuant to Exec. Order No. 12,898 which requires that agencies, to the greatest extent practicable and permitted by law, make achieving environmental justice part of their mission by identifying and addressing disproportionate effects of agency actions on minority and low-income communities, FHWA published its own order giving parameters defining the scope of review to evaluate an “adverse effect” pertaining to environmental justice concerns. U.S. Dep’t of Transp., Fed. Highway Admin., Order No. 6640.23, FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (Dec. 2, 1998), *available at* http://www.fhwa.dot.gov/legregs/directives/orders/6640_23.htm. The FHWA Order asks that the agency consider, among other things, social and economic effects, including deleterious effects on a community’s economic vitality, public services, and adverse employment effects. *Id.* Plaintiffs contended that the REA contained little evaluation of the effects of the CCCH on low-income populations, particularly Burlington’s Old North End. Plaintiffs’ Motion for Partial Summary Judgment and Supporting Memorandum of Law at 74–76, *Senville v. Peters*, 327 F. Supp. 2d 335 (D. Vt. 2004) (No. 2:03-cv-279) [hereinafter Plaintiffs’ MSJ]. FHWA and VTrans concluded that the shift in job growth caused by CCCH will not have a significant effect on these low-income areas and made a rather cursory conclusion that another highway would provide more road capacity for bus service for the Old North End. *See VTRANS & FHWA, REA, supra* note 77, at V-8 to -9 (asserting the CCCH construction does not impact minority/low-income populations and will facilitate reducing commuter traffic in Old North End and access to bus transit). Yet, the REA completely failed to discuss possible increased transportation costs for this community if job growth trends towards more remote locations. Judge Sessions found that this alleged deficiency does not violate NEPA. *See Senville*, 327 F. Supp. 2d at 363 (reasoning that since the shift in job growth away from poorer areas was relatively minor in percentage terms, it was not unreasonable for FHWA and VTrans to conclude that there was no adverse impact on these poorer communities). The terse look at the effects of the CCCH on low-income areas arguably presents a failure to address a potentially negative effect of the highway on existing downtown areas.

226. *See* 40 C.F.R. § 1508.27(b)(10) (2005) (requiring an EIS to evaluate “[w]hether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment”).

the region has come close to violating air-quality standards for pollutants such as ozone and fine-particulate matter.²²⁷ Additionally, several water bodies in the affected area have become “impaired” and no longer meet water-quality standards.²²⁸

The REA concluded that the CCCH would not have an adverse impact on the region’s air and water resources.²²⁹ The REA also concluded that the CCCH’s impact on air and water resources has not substantially changed from the 1986 FEIS.²³⁰

The REA’s analysis revolved largely around a conclusion that the impacts on air and water quality will not be significant, because the highway will have to comply with regulations.²³¹ Judge Sessions found that this analysis was not arbitrary and capricious.²³² Yet, with the documented connection between highways, sprawl, and resulting air and water pollution, the idea that this project and any resulting sprawl will not have negative impacts on the air and water resources of the region is difficult to imagine.

1. Impacts on Air Quality

The REA, in its air-quality analysis, relied largely on the 1985 Air Quality Technical Report, which reviewed the results of a mesoscale

227. For instance, according to the EPA, Vermont has exceeded the eight-hour average ozone standard at least eight times between 2000 and 2002. EPA, Region 1, Ozone Exceedances, *supra* note 50. Additionally, Vermont’s own monitoring indicates that the levels of hazardous air pollutants in Chittenden County have exceeded recommended health standards approved by EPA and the State of Vermont. TOXICOLOGICAL ADVISORY COMM., VT. AGENCY OF NATURAL RES., AIR TOXICS REPORT 24 (1998), available at <http://www.anr.state.vt.us/air/hm/airtoxic.htm#policy>. If Vermont were to become a non-attainment area, stricter Clean Air Act requirements would apply, making economic growth more difficult due to increased and more burdensome permitting requirements. See COMM. TO ENSURE CLEAN AIR, REPORT TO THE VERMONT GENERAL ASSEMBLY 5 (2002).

228. Allen Brook, Indian Brook, Sunderland Brook, and Lake Champlain have become impaired since the 1986 FEIS. VT. 303(D) LIST, *supra* note 49, at 2–4, 6; see also VT. AGENCY OF NATURAL RES. & N.Y. DEP’T OF ENVTL. CONSERVATION, LAKE CHAMPLAIN PHOSPHORUS TMDL 3 (2002) [hereinafter LAKE CHAMPLAIN TMDL] (reporting that sections of Lake Champlain do not meet Vermont Water Quality Standards for phosphorous). Allen Brook has become impaired for stormwater and E. coli, which are often caused by runoff from suburban development, including roadways. VT. 303(D) LIST, *supra* note 49, at 6. Indian Brook is impaired for stormwater, also attributed to runoff from land development. *Id.* at 4. Similarly, Sunderland Brook is impaired for stormwater, again from land development. *Id.* at 6. The Main Lake of Lake Champlain, which receives waters from all three of these brooks plus the Winooski River (which is not impaired), is impaired for phosphorous, which also comes from urban runoff. LAKE CHAMPLAIN TMDL, *supra*, at 3.

229. VTRANS & FHWA, REA, *supra* note 77, at V-28, -32.

230. *Id.*

231. See *id.* (discussing air and water resource impacts in terms of regulatory compliance); see also *Senville v. Peters*, 327 F. Supp. 2d 355, 357, 359–60 (D. Vt. 2004) (detailing the REA’s air and water impacts analysis).

232. *Senville*, 327 F. Supp. 2d at 358 n.22, 361.

analysis.²³³ This analysis looked at three pollutants: non-methane hydrocarbon (HC), carbon monoxide (CO), and nitrogen oxide (NO_x).²³⁴ The studies that the REA relied on essentially concluded that while VMT will increase as a result of the CCCH, overall emissions of HC and CO will decrease because vehicles will be diverted from local roads to the interstate system where they will travel at higher and more-efficient speeds.²³⁵ However, the studies found that NO_x emissions, which increase at higher speeds, will increase if the CCCH is constructed.²³⁶ The microscale analysis conducted at several intersections of concern also showed that CO levels would not increase to a level of non-attainment.²³⁷

As the court noted, air quality in Chittenden County has deteriorated since 1986.²³⁸ As a result, FHWA updated the 1986 information by using a partially updated model from the CCMPO that looked at construction of Segments A–B and the already-built segments of the CCCH.²³⁹ The conclusion FHWA reached from this update was that a new mesoscale analysis was unnecessary.²⁴⁰ While the court did not wholeheartedly endorse this approach, it found the approach “reasonable.”²⁴¹

233. A mesoscale analysis studies regional air quality. A microscale analysis studies air quality at certain points, like intersections. *Senville*, 327 F. Supp. 2d at 357. An air quality control region is defined by the EPA Administrator as “any interstate area or major intrastate area which he deems necessary or appropriate for the attainment and maintenance of ambient air quality standards.” 42 U.S.C. § 7407(c) (2000). As background, under the Clean Air Act (CAA), the “EPA has identified air pollutants that endanger public health and welfare, and promulgated National Ambient Air Quality Standards (‘NAAQS’) that set forth maximum allowable concentrations in ambient air for six air pollutants: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulates of ten micrometers and smaller in diameter, sulfur dioxide (SO₂), and lead (Pb).” *Senville*, 327 F. Supp. 2d at 356–57 (citing 42 U.S.C. §§ 7408–09 (2000); 40 C.F.R. pt. 50, app.A, C–D, F–G, J). EPA has not established NAAQS for mobile source air toxics or hazardous air toxics. *Id.* at 357. Under the CAA, “state implementation plans (SIPs) are the primary means of attaining or maintaining NAAQS.” *Senville*, 327 F. Supp. 2d at 357; *see also* 42 U.S.C. § 7410(a)(1), (2) (2000) (establishing SIPs as the mechanism for states to meet NAAQS). Vermont has an approved SIP and is in attainment with NAAQS. *Senville*, 327 F. Supp. 2d at 357.

234. *Senville*, 327 F. Supp. 2d at 357.

235. *Id.* at 357–58.

236. *Id.* at 358.

237. *Id.*

238. *Id.* at 357–58.

239. *Id.* at 358. This again goes back to the issue of segmentation and how FHWA uses a partially built CCCH to evaluate costs. Since constructing Segments A and B will likely lead to the completion of the highway, not evaluating the entire highway’s impacts gives the public a misleading assessment of the project’s air-quality ramifications.

240. *Id.*

241. *Id.* The court expressed skepticism over the approach chosen, but stated that:

Although the Court in unable to fathom why FHWA would undertake a partial, rather than a complete update of its air quality modeling, the Court’s task here is not to dictate the sort of hard look the agency must take, but to determine whether it was hard enough. Given the minor change in VMT estimates from the 1986

The plaintiffs in *Senville* attacked this method as outdated and unreliable.²⁴² They also argued that the REA failed to consider several pollutants of current concern to Chittenden County that are linked, at least in part, to vehicle travel.²⁴³ The *Senville* plaintiffs were correct. The REA and FEIS failed to consider the highway's effect on ozone levels, fine-particulate matter, and hazardous air pollutants (HAPs), which have been of recent concern in Chittenden County and are linked to automobile travel.²⁴⁴ EPA also initially criticized the failure to analyze these pollutants:

Although Chittenden County is in attainment for ambient air-quality standards, since vehicles are a source of pollutants including carbon monoxide, particulate matter, volatile-organic compounds, oxides of nitrogen, and hazardous-air toxics, an alternative that minimizes vehicle emissions is environmentally preferable.²⁴⁵

However, the court reasoned that consideration of these pollutants was not required because it found that it had to accept FHWA's conclusion that the completion of Segments A–B would not significantly alter overall VMT.²⁴⁶

estimates, FHWA's decision to look no farther than the traffic analysis was based upon reason.

Id. The court also found that for the purposes of a NEPA analysis, FHWA's and VTrans's reliance on the fact that the highway had received permits and was included in the CCMPO's TIP, which by law must conform to state air quality standards, was sufficient. *See id.* at 357 (explaining the standards and requirement of attaining them).

242. *Id.* at 358. Plaintiffs argued that “the 2002 traffic analysis done by FHWA and VTrans fails to account for: (1) changes in vehicle emissions, emissions standards and fuel efficiency; (2) increased highway speed . . . ; (3) upward adjustment in base emissions rates; and (4) decrease in regional air quality.” *Id.*

243. *See id.* at 359 (“The Plaintiffs also assert . . . [the] air quality analysis fails to consider . . . Vermont's adoption of public health-based Hazardous Ambient Air Standards ('HAAS') for HAPs.”). HAPs, or hazardous air pollutants, are linked to congested traffic. *Id.*

244. Governor Dean's 2002 report to the General Assembly highlighted the air quality problem in Chittenden County and its link to automobile use. The report stated that “[a]utomobile traffic in Vermont is the major source of emissions of air contaminants.” COMM. TO ENSURE CLEAN AIR, *supra* note 227, at 22; *see also Senville*, 327 F. Supp. 2d at 359 (explaining that “HAPs, ozone, and CO₂ are all produced by congested VMT”). While Judge Sessions accepted the adequacy of the FHWA's analysis, other courts have criticized similar failures to consider such pollutants in the context of a highway project. *E.g.*, *Sierra Club, Ill. Chapter v. U.S. Dep't of Transp.*, 962 F. Supp. 1037, 1045 (N.D. Ill. 1997) (“[A]n impact statement is incomplete without an analysis of the effect of the [project] will have on the production of ozone in the region. . . . [D]efendants must either prepare a study that explicitly compares ozone production with and without the tollroad or explain why a study is not possible.”). The REA neither studies the impacts of ozone nor explains why such a study is not possible. VTRANS & FHWA, REA, *supra* note 77, at V-30 to -32 (showing that ozone is omitted in the “Air Quality” section of the REA).

245. Varney Letter, *supra* note 146, at TA-2.

246. *Senville*, 327 F. Supp. 2d at 359. “The 1986 FEIS and the 2002 traffic analysis concluded

Despite the court's finding, the REA's analysis of air impacts is suspect because the Air Pollution Control Permit does not address air toxics.²⁴⁷ This is especially significant given that motor vehicles are the greatest source of air toxics in Vermont.²⁴⁸ It is also suspect given the REA's failure to look at induced traffic and the potential effects of increased congestion from future growth. The highway is expected to redirect growth to suburban areas where, unlike the urban core, car use is often the only viable transportation option for employees and residents.

The study is further suspect because it completely ignored potential global-warming impacts.²⁴⁹ Vermont has proposed strategies as part of a regional effort to combat global warming that stresses reducing VMT and transportation-related emissions of GHG.²⁵⁰ Automobiles are the number one source of GHG emission in Vermont.²⁵¹ The REA's conclusion that VMT (and, as can be surmised, CO₂ emissions) will increase due to the construction of Segments A and B appears contrary to the state's efforts to combat climate change.

2. Impacts on Water Quality

As stated above, several water bodies that will be affected by both the construction and operation phases of the CCCH, including Lake Champlain, have become "impaired" since 1986. As background, the federal Clean

that the CCCH will not alter overall congested VMT by a significant amount over the next twenty years. Thus, specific studies on these emissions, however desirable, were not required." *Id.*

247. The permit, as amended, states its reliance on the 1985 Air Quality Technical Report. *Id.* at 357. The Vermont Air Pollution Control Regulations only require conformity with HAPs for stationary sources. See Vt. Air Pollution Control Regulations, 7 VT. CODE R. § 5-261 (2003) (regulating emissions of hazardous air contaminants from stationary sources). However, since the highway is an indirect source, under the regulations, it does not have to comply with the requirements for HAPs. *Id.* Relying on the permits may give a good indication as to how the highway will affect the level of the pollutants covered by the permit, but it will say nothing about the highway's effect on pollutants not covered by the permit, such as HAPs. *Id.*

248. See Air Pollution Control Division, Vt. Dep't of Env'tl. Conservation, Sources of Toxic Air Pollution, <http://www.anr.state.vt.us/air/AirToxics/htm/Sources.htm> (last visited Apr. 21, 2007) (showing that mobile sources constitute 53% of toxic air pollution).

249. The Court found that FHWA and VTrans's decision not to look at global warming gases was reasonable given that "the 2002 traffic analysis concluded that the CCCH will not alter overall congested VMT by a significant amount over the next twenty years." *Senville*, 327 F. Supp. 2d at 359.

250. CTR. FOR CLIMATE CHANGE & ENVTL. FORECASTING, DEP'T OF TRANSP., GREENHOUSE GAS REDUCTION THROUGH STATE AND LOCAL TRANSPORTATION PLANNING: FINAL REPORT 18 (2003), available at <http://climate.dot.gov/docs/reduction.pdf>.

251. See VT. AGENCY OF NATURAL RES., SCIENTIFIC INFORMATION STATEMENT: ATTACHMENT A, <http://www.anr.state.vt.us/air/docs/Scientific%20Statement%20Attachment%20A.pdf> (last visited Apr. 21, 2007) ("Of the human activities producing GHGs, the combustion of fossil fuels for transportation represents the single largest source of GHG emissions in Vermont.").

Water Act requires that states set standards for the water quality of water bodies, standards based, in part, on certain designated uses, such as fishing, swimming, and water supply.²⁵² If a water body does not meet these standards due to pollution, the state must list that water body as impaired for its designated uses and list the reason for impairment.²⁵³ For impaired waters, the state must set forth a clean-up plan that determines a pollution budget, which stipulates the amount of pollutants the water body can assimilate without failing water-quality standards.²⁵⁴ These pollution budgets are called total maximum daily loads (TMDLs).²⁵⁵

The plaintiffs in *Senville* alleged that both the construction and the operation of the CCCH would contribute significant amounts of pollutants—such as sediment, salt, and phosphorous—to already-impaired waters.²⁵⁶ They stressed that one of the most glaring omissions in the REA was a thorough analysis of how the CCCH and possible induced growth would affect the already-deteriorated state of these impaired waters.²⁵⁷ However, Judge Sessions found that FHWA’s reliance on the existing permits and a study of sediment loading into impaired Allen Brook was adequate for the purposes of NEPA.²⁵⁸ The analysis that Judge Sessions approved of concluded that due to an offset program on nearby Route 2—which also discharges sediment into Allen Brook—and certain treatment measures, no increase in sediment loading to Allen Brook would occur.²⁵⁹ Judge Sessions also found that FHWA’s reliance on permits to determine that phosphorous loading into Lake Champlain would comply with the phosphorous TMDL for the lake was adequate.²⁶⁰

252. 33 U.S.C. § 1313 (2000).

253. *See id.* § 1313(d)(1)(A) (requiring states to priority rank polluted water bodies based on degree of pollution and designated use).

254. *Id.* § 1313(d)(1)(C).

255. *Id.*

256. Plaintiffs’ MSJ, *supra* note 225, at 57–58.

257. *Id.* at 60.

258. *Senville v. Peters*, 327 F. Supp. 2d 335, 361 (D. Vt. 2004).

259. *Id.* at 360.

260. *Id.* Importantly, an appeal of the CCCH stormwater discharge permits before the Vermont Water Resources Board (WRB) upheld the legality of the permits. CCCH Stormwater Discharge Permits, Nos. WQ-02-11, WQ-03-05, WQ-03-06, WQ-03-07 Consolidated, Findings of Fact, Conclusions of Law, and Order, at 43 (Vt. Water Res. Bd. Oct. 4, 2004), *available at* <http://www.nrb.state.vt.us/wrp/decisions/wrbdecisions/2004wq-02-11etseq-fco.pdf> [hereinafter CCCH Stormwater Discharge Permits]. The decision relied mainly on findings that both the construction and operation phases of the CCCH would comply with the Vermont Agency of Natural Resource’s (ANR) 2002 Vermont Stormwater Management Manual. *Id.* at 5. However, the decision expressed some concern over whether existing uses in non-impaired waters would be adequately protected. *Id.* at 32; *see also id.* at 44 (Bruce, Bd. member, dissenting) (“[A]lthough VTrans has been planning the CCCH for approximately twenty years, neither this agency nor the ANR has conducted the necessary field and inventory work to assist the Secretary in making a determination of what constitute ‘existing uses’ of the

Yet, FHWA's and VTrans's conclusions are built upon some troubling foundations. The REA provided no analysis of sediment loading into impaired Allen Brook during the four-year construction phase, but rather relied on the permit issued for the construction phase, which expressly allows for violations of water-quality standards to occur during this period.²⁶¹ Additionally, mitigation measures for sediment loading into Allen Brook, a sediment-impaired stream that runs through Williston and will be directly affected by discharges from Segments A and B, are largely illusory.²⁶² According to the REA, mitigation will primarily occur through an offset plan, compliance with the Vermont Agency of Natural Resource's stormwater management manual (which prescribes certain measures and practices to reduce, treat, and control stormwater runoff), and the Allen Brook TMDL.²⁶³ However, the proposed offset—reducing winter sanding on Route 2 to compensate for the new sediment loading from the CCCH—has since been determined to be a preexisting requirement under federal law regulating stormwater.²⁶⁴ Thus, there is no offset.²⁶⁵ Additionally, the

receiving waters.”).

261. In discussing this waiver of compliance with water-quality standards for turbidity and aquatic-habitat standards (referred to as a limited duration activity waiver), the WRB relied on testimony by ANR witnesses that the violations would be “short term and *de minimis*.” CCCH Stormwater Discharge Permits, *supra* note 260, at 38.

262. NEPA requires a discussion of mitigation impacts. 42 U.S.C. § 4332(2)(C)(ii) (2000); 40 C.F.R. §§ 1502.14(f), 1502.16(h), 1508.20 (2005); *see also* Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 351–52 (1989) (“[O]ne important ingredient of an EIS is the discussion of steps that can be taken to mitigate adverse environmental consequences.”); Nat'l Audubon Soc'y v. Hoffman, 132 F.3d 7, 17 (2d Cir. 1997) (“[M]itigation measures [must] be supported by substantial evidence *in order to avoid creating a temptation for federal agencies to rely on mitigation proposals as a way to avoid preparation of an EIS.*”) (emphasis added).

263. VTRANS & FHWA, REA, *supra* note 77, at V-26 to -27.

264. *See* 40 C.F.R. § 122.34(b)(4)(ii)(A)–(F) (2005) (requiring small MS4 operators seeking NPDES permitting to develop an “ordinance or other regulatory mechanism” to ensure construction site operators comply with applicable erosion and sediment control laws and best management practices). The WRB, though upholding the legality of the permits for the CCCH discharge, found the offset to be double-counting, concluding that:

The Board notes that while VTrans submitted its permit application in July 2002, those regulations [governing discharges of stormwater from US Route 2, where the proposed offset was to occur,] were in full force and effect even though ANR did not issue General Permit 9014 governing the small MS4s in Chittenden County, including US 2 in Williston, until March 2003. Therefore, in the Board's opinion, VTrans has a pre-existing obligation to reduce winter sand use on Route 2. . . . Accordingly, the Sand Reduction Offset Plan proposed by VTrans is not a credible offset.

CCCH Stormwater Discharge Permits, *supra* note 260, at 33–34. Yet, the WRB still found that the overall discharges from the CCCH would not result in an increased loading of pollutants into the receiving waters. *Id.* at 35.

265. Judge Sessions did not find this analysis illegal under NEPA. *Senville v. Peters*, 327 F. Supp. 2d 335, 361 (D. Vt. 2004).

Allen Brook TMDL, which is relied upon by the REA as a watershed clean-up plan that will be implemented to meet water-quality standards in Allen Brook and to adequately account for CCCH and other discharges, has not been completed and may not be for some time.²⁶⁶ Therefore, VTrans and FHWA's mitigation analysis has been, in large part, built upon double-counting for an offset and a clean-up plan for Allen Brook that does not exist. This is to say nothing of the REA's complete lack of analysis regarding the potential discharges from growth and development—new or redistributed—attributable to the CCCH once it is built.²⁶⁷

F. Failure to Consider Alternatives

Since the alternatives analysis is the heart of the NEPA process, probably the most glaring inadequacy of the REA and FEIS is the limited range of alternatives considered. The REA did not perform an alternatives analysis separate from the 1986 FEIS.²⁶⁸ Judge Sessions ruled that this violated NEPA.²⁶⁹ The 1986 FEIS alternatives, which Judge Sessions accepted as legal,²⁷⁰ are at best uninspired. To recap, the 1986 FEIS

266. See CCCH Stormwater Discharge Permits, *supra* note 260, at 7 (“According to the 2002 § 303(d) List, ANR intended to complete a total maximum daily load (TMDL) for Allen Brook in 2002; however, ANR has not adopted a TMDL nor established wasteload allocations for Allen Brook to date.”).

267. Note that the WRB also neglected to look at the possible effects of discharges from sprawling growth. *Id.* The Board only considered the increase of impervious surface in the Allen Brook watershed due to the CCCH itself. *Id.* at 22.

268. See VTRANS & FHWA, REA, *supra* note 77, at III-2 (“The focus of the alternatives section of the August 15, 2003 Revised EA/Reevaluation is to identify the Segments A–F alignment changes that have occurred since the 1986 CCCH FEIS, and to evaluate the selected alternative’s ability to continue to meet the project’s purpose and need requirements.”).

269. *Senville*, 327 F. Supp. 2d at 353. Federal regulations governing EAs clearly state that an EA must include “brief discussions of . . . alternatives as required by section 102(2)(E) [of NEPA].” 40 C.F.R. § 1508.9(b) (2005). Section 102(2)(E) of NEPA states that federal agencies must “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” 42 U.S.C. § 4332(2)(E) (2000). Judge Sessions found that:

In a case such as this one, where consideration of alternatives was last documented eighteen years ago, where conflict over the use of resources is unresolved and substantial, and where the agency itself was unsure of the significance of new impacts, NEPA required that FHWA consider alternatives to its selected alternative in the environmental document it prepared. NEPA’s requirement is underscored by the CEQ regulation: an EA must include a brief discussion of alternatives.

FHWA violated NEPA and CEQ regulations by preparing an EA that was intended to determine whether a SEIS was necessary without undertaking a brief analysis of alternatives to the project.

Senville, 327 F. Supp. 2d at 353 (internal citation omitted).

270. *Senville*, 327 F. Supp. 2d at 347.

considered the following alternatives: no-action, alternative modes of transportation, rebuilding existing roadways, a limited-build alternative, a Susie Wilson Road connector, and three build alternatives (which were essentially different alignments for the highway).²⁷¹ The FEIS's look at alternative modes of transportation only considered expanded bus service, satellite parking lots, and van pools, and only looked at these alternatives in conjunction with the construction of a two-lane, rather than four-lane, CCCH.²⁷²

Since the 1986 FEIS, a wealth of information on the efficacy of non-highway alternatives has come to light that was not available in 1986 or considered in the FEIS. For instance, the 1986 FEIS did not consider rail transit.²⁷³ However, a study published in 2001 for the CCMPO concluded that the use of rail transit was a key component to changes that may outperform the CCCH in improving congestion in the Burlington-to-Essex travel corridor.²⁷⁴ Also, the 1986 FEIS did not consider the use of roundabouts at troublesome intersections.²⁷⁵ Yet, recent studies have shown that reconfiguring problem intersections, such as a roundabout at Five Corners in Essex Junction, could provide substantial congestion relief at these intersections.²⁷⁶ Moreover, the 1986 FEIS did not look at a combination of roadway improvements and alternative modes of transportation, a failure recently found by a federal appeals court to be unreasonable in the context of NEPA review for a highway project.²⁷⁷

Initially, EPA was also critical of the failure to examine alternatives in

271. VTRANS, 1986 FEIS, *supra* note 109, at 153.

272. *Id.* at 178–80. Judge Sessions found this look at alternatives to be reasonable for the purposes of the 1986 FEIS, underscoring the fact that an alternatives analysis under NEPA need not consider a necessarily broad array of alternatives. *Senville*, 327 F. Supp. 2d at 347. Yet, Judge Sessions did provide some noteworthy commentary in arriving at his decision, calling the alternatives examined “hardly a model of rigorous exploration.” *Id.*

273. *See* VTRANS, 1986 FEIS, *supra* note 109, at 177 (listing only five alternatives with no reference to rail transit).

274. DMJM & HARRIS, *supra* note 120, at ES-25.

275. *See* VTRANS, 1986 FEIS, *supra* note 109, at 177 (listing only five alternatives with no reference to roundabouts).

276. *Id.* at ES-17.

277. *Davis v. Mineta*, 302 F.3d 1104, 1121–22 (10th Cir. 2002). In *Davis*, a case concerning a major highway project in Salt Lake County, Utah, the Court found that:

In addition to the possibility of expanding existing roads, options involving Transportation System Management (TSM) and mass transit were eliminated from study under the EA. The EA/4(f) rejected these options because, standing alone, they would not meet the purpose and need of the Project. However, no effort was made to consider TSM and mass transit *together* and/or in conjunction with alternative road expansion as a means of meeting Project goals. This represents one of the most egregious shortfalls of the EA.

Id. (footnote omitted).

the EA and FEIS.²⁷⁸ It stated that:

[W]e believe that, at a minimum, the [traffic] model should be run for a new alternative both with and without the [proposed] rail line [from Burlington to Essex] and feeder bus system in operation, to determine whether this system, in combination with Transportation System Management (TSM) and Transportation Demand Management (TDM) measures, could improve transportation efficiency and reduce safety problems in Chittenden County to a degree that the need for the highway project changes. . . . [The Burlington-to-Essex] rail line is expected to carry 1,310 passengers in 2005 and 1,990 in 2025. These numbers are not trivial, and an analysis of their impact on the project should be incorporated into the analysis of the CCCH project and the information made public. In addition, TSM and TDM measures should be seriously analyzed to determine whether they should be implemented in place of the highway, or in addition to it.²⁷⁹

To allay EPA's concerns, FHWA and VTrans looked at limited TSM/TDM/rail options.²⁸⁰ The examination only used information that assumed that Segments A and B of the CCCH were going to be constructed and restricted consideration of TSM and TDM measures to those that would function in conjunction with the completed segments, not as an alternative to their construction.²⁸¹ Judge Sessions found that this examination did not meet NEPA's requirement of an alternatives analysis.²⁸²

Unfortunately, from the onset, FHWA and VTrans conducted the NEPA process in a flawed manner—they failed to look at comprehensive alternatives to the CCCH as well as some comparatively inexpensive fixes, such as roundabouts, that might achieve similar or better congestion relief. As a result of Judge Session's ruling, FHWA and VTrans have been forced to perform a new analysis. As will be discussed later, smart-growth groups have submitted an expert report detailing certain alternatives that would

278. Varney Letter, *supra* note 146, at TA-1.

279. *Id.*

280. VTRANS & FHWA, REA, *supra* note 77, 1–3 app.D Traffic Supp.1.

281. *See id.* (detailing transit, TDM and TSM assumptions and build (no build, A/B, and full) scenarios).

282. *Senville v. Peters*, 327 F. Supp. 2d 335, 352 (D. Vt. 2004). Judge Sessions characterized the REA look at "alternatives" this way: "The section labeled 'Alternatives' . . . was not a consideration of alternatives, but an examination of the changes to the selected alternative and a justification for constructing the next segments. The FREA did not consider alternatives to the proposed project. The Defendants deemed it unnecessary . . ." *Id.*

likely outperform the CCCH at lower cost to both taxpayers and the environment. Hopefully, agencies will use this opportunity to seriously consider and adopt such alternative approaches.

IV. GETTING FROM HERE TO THERE: USING NEPA TO ARRIVE AT A SUSTAINABLE TRANSPORTATION SOLUTION FOR CHITTENDEN COUNTY

There has yet to be a serious agency evaluation of how transportation investment in Chittenden County could be done in a manner favoring smart growth over sprawl. Thinking and knowledge regarding the transportation and land-use nexus has advanced tremendously since the conception of the CCCH. We now know more highways equal more sprawl. The problem of global warming is upon us and is caused largely by automobile use.²⁸³ The law has evolved to allow for more flexibility in spending and to shift the focus of federal spending from highways to more balanced transportation investments.²⁸⁴ The time for new thinking about how we get around has arrived.

With the new study that has resulted due to Judge Sessions's decision, a window has opened up for a serious examination of alternatives to the highway that more responsibly account for cost, efficacy, sprawl, and global warming. However, there is a risk that this opportunity will be squandered if the right alternatives are not considered. Outlined below are

283. EPA, OBNE, *supra* note 10, at 30.

284. Transportation funding and planning law today is much more flexible and responsive to the needs of multi-modal transportation. Both the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21) revolutionized transportation planning and funding. *See generally* U.S. DEP'T OF TRANSP., A GUIDE TO METROPOLITAN TRANSPORTATION PLANNING UNDER ISTEA—HOW THE PIECES FIT TOGETHER, <http://ntl.bts.gov/DOCS/424MTP.html> (last visited Apr. 21, 2007) [hereinafter US DOT, METRO PLANNING GUIDE] (explaining improvements of the ISTEA); SURFACE TRANSP. POL'Y PROJECT, TEN YEARS OF PROGRESS: BUILDING BETTER COMMUNITIES THROUGH TRANSPORTATION 4, <http://www.transact.org/powerpoint/ten-years-slides.ppt> (last visited Feb. 8, 2007) (showing federal spending changes between 1990 and 1999); EDWARD BEIMBORN & ROBERT PUENTES, THE BROOKINGS INST. CTR. ON URBAN & METRO. POL'Y, HIGHWAYS AND TRANSIT: LEVELING THE PLAYING FIELD IN FEDERAL TRANSPORTATION POLICY 3–4 (2003) (discussing ISTEA and TEA-21). ISTEA and TEA-21 allow for more flexible spending of federal transportation funds. BEIMBRON & PUENTES, *supra*, at 3–4. These statutes now require a link between the long-range plan for an area and the TIP; the realization of air-quality goals; and the provision of funding for “non-transportation” items that can enhance communities and transportation in ways that are not capacity-adding. These provisions stress a framework for transportation investments that reach well beyond capacity-expansion and towards the goals of multi-modal transportation that improve environmental quality. 23 U.S.C. § 134(f)–(g) (2000); US DOT, Metro Planning Guide, *supra*, at 8. Chittenden County's Long Range Transportation Plan was born from these newer laws. *See* CCMPO, 2025 MTP, *supra* note 62, at 116–18 (referencing ISTEA and TEA-21).

certain alternative approaches for relieving congestion that might pave the road to better investment and a smart-growth future for Chittenden County.

A. Highway Opponents Offer an Innovative Solution

Opponents of the highway have recognized the need not just to oppose this unwise investment, but also to foster effective, environmentally responsible, and affordable transportation infrastructure that does not induce sprawl. This can be evidenced in their actions taken both prior to and after the litigation.

Shortly after the REA was issued in the spring of 2003 and before litigation was filed, Conservation Law Foundation (CLF) and Friends of the Earth (FOE), plaintiffs in the CCCH litigation, publicly put forth a proposal to allow partial completion of the highway to commence in return for sprawl-curbing measures, citing the perceived importance of the highway to IBM.²⁸⁵ The proposal would have allowed the Williston section of the CCCH to go forward as planned, giving IBM direct access to Interstate 89 and, in theory, diffusing the political tension IBM brings to the project.²⁸⁶ In exchange for this, CLF and FOE asked for investment in rail and other modes of transportation, a moratorium on further highway building until a study of alternative transportation was performed, land controls put in place to deter the sprawling effects of the highway's partial construction, and implementation of watershed cleanup plans for waterways affected by the highway.²⁸⁷ The offer was rejected, in part, because there were justifications for the highway's necessity, because other processes would adequately look at different transportation components for the county, and, perhaps, because of a buoyed sense on the part of VTrans and FHWA that they would prevail on the NEPA suit.²⁸⁸

Since the victory in federal court, the Vermont Smart Growth Collaborative (VSGC), which includes *Senville* plaintiffs CLF, FOE, Vermont Public Interest Research Group, as well as other groups, has introduced a study of alternatives to the CCCH that demonstrates that the benefits of the CCCH can be achieved with lower-cost, lower-impact

285. Mark Sinclair, Op-Ed, *Time to Compromise on the Circ.*, BURLINGTON FREE PRESS, June 28, 2003, at 9A.

286. *Id.*

287. *Id.*

288. See Letter from Patricia A. McDonald, Sec'y, Vt. Agency of Transp., to Mark A. Sinclair, Esq., Conservation Law Found. & Brian S. Dunkiel, Esq., Shems, Dunkiel & Kassell, PLLC (Aug. 14, 2003) (rejecting CLF's and FOE's offer).

alternatives consistent with the region's growth goals.²⁸⁹ The first VSGC alternative consists of a comprehensive and systematic use of measures not explored by the REA or FEIS that improve existing roadways and intersections.²⁹⁰ VSGC's approach stresses improving the function of points where congestion occurs, like intersections, so more cars can pass through these points at a faster rate, thus reducing congestion.²⁹¹ VSGC's measures include roundabouts and other traffic improvements, like multi-modal boulevards, which are designed to accommodate several modes of transportation (such as cars, pedestrian use, bicycle use, and transit) with medians to moderate speeds and enhance safety, and turn lanes structured to function at a high rate of efficiency.²⁹²

The second VSGC alternative combines the measures contained in the first alternative with the construction of a surface street in the right-of-way of the CCCH that has an interchange with I-89, which would give IBM direct access to the Interstate.²⁹³ The new road would not have the other interchanges that the CCCH would have, nor would it connect with the already-constructed Essex portion of the CCCH.²⁹⁴ Rather than creating interchanges that precipitate sprawl, the IBM access street would intersect with local roads and provide an opportunity for compact growth to occur by allowing connector streets to develop in a grid-street system near an existing school as well as with the commercial areas of Taft Corners and Essex Junction.²⁹⁵ The study does not require either transit or land use modifications for its alternatives to work.²⁹⁶

Unlike the REA and the new study, VSGC proposes a purpose and need for the alternatives to "foster the desired land use pattern of the towns and region by providing improved accessibility in the Route 2A corridor, and the Taft Corners and Five Corners growth centers" (the area to be serviced by the CCCH A and B sections), without increasing the capacity of major suburban-suburban connections or significant access improvements to outlying communities.²⁹⁷ For the second alternative—a surface street in the right-of-way of the CCCH—VSGC adds a further purpose of:

289. SMART MOBILITY & OMAN ANALYTICS, ALTERNATIVES TO THE CHITTENDEN COUNTY CIRCUMFERENTIAL HIGHWAY 1 (2005), available at http://www.vtsprawl.org/Pdfs/circ_alternatives.pdf [hereinafter SMI & OA].

290. *Id.* at 13–23.

291. *Id.* at 13.

292. *Id.* at 13–23.

293. *Id.* at 25.

294. *See id.* at 25–26 (outlining the specifics of Alternative 2).

295. *Id.* at 26.

296. *Id.* at 1.

297. *Id.* at 24.

creat[ing] opportunities for traditional neighborhood developments designed with a well connected, gridded street network. A higher density, mixed use new neighborhood, facilitated by this plan can be accompanied by further conservation efforts in rural lands in Williston, which their town plan has identified in their open space plan for conservation.²⁹⁸

Thus, unlike the REA, which largely ignored area-related land use goals, the VSGC alternatives seek to achieve mobility benefits that would further these goals.

VSGC's approach is remarkable for both its practicality and its efficacy. According to VSGC's analysis, these alternatives would greatly outperform the CCCH, providing an LOS of between A and C at major intersections (like Five Corners in Essex Junction) targeted for improvement by the CCCH Segments A–B.²⁹⁹ The CCCH, on the other hand, leaves these intersections performing at levels of service between C–F.³⁰⁰ Moreover, both alternatives put forth by VSGC are, according to its study, less costly in pure dollar terms than the CCCH, with the first alternative (no surface street) being significantly less costly.³⁰¹

The VSGC study relies quite heavily on the use of roundabouts, which provide a very efficient and high-capacity way to manage problem intersections, where most traffic congestion accumulates.³⁰² The study also notes that some of these roundabouts need to be carefully designed to avoid impacts on historical structures and to ensure options for pedestrian use.³⁰³

So far, VTrans and FHWA have purported to look at some of these

298. *Id.* at 25.

299. *Id.* at 2. LOS are ranked from A to F, with A providing the best transportation service. *Id.*; *see also supra* note 191 for more discussion about LOS. For PM Peak Traffic for six major intersections in the Route 2A corridor targeted for improvement by the CCCH's A and B construction, the CCCH is projected to have one intersection operating at an LOS of F, two intersections operating at a LOS of E, two operating at an LOS of D and one operating at an LOS of C in the year 2023. *Id.* Meanwhile, the VSGC Plan A is projected to have five of these intersections operating at an LOS of B, and one at A in the year 2023. *Id.* VSGC Plan B (which includes the surface street in the CCCH right of way) is projected to have five of these intersections operating at an LOS of B and one operating at an LOS of A. *Id.* The most drastic improvement is at the troublesome Five Corners in Essex Junction, which is projected to operate at an LOS of F in 2023 with the CCCH's construction, but would operate at an LOS of A under VSGC Plan A and an LOS of B under VSGC Plan B. *Id.*

300. *Id.*

301. *Id.* at 29. The VSGC study projects that Plan A (no surface street) will cost approximately \$20 million to construct. *Id.* at 28. Plan B (a surface street in the CCCH right of way) is projected to cost about \$43 million to construct. *Id.* This is compared to a projected cost for completion of the CCCH sections A and B of around \$52 million to construct. *Id.*

302. *Id.* at 11.

303. *See id.* at 13–23 (discussing designs of proposed roundabouts).

alternatives in the initial list of twenty-three alternatives vetted at public meetings in 2005 and later incorporated in a June 2006 memorandum.³⁰⁴ The experts who engineered the VSGC alternatives described the initial modifications to their alternatives as having “resulted in their being unrecognizable,” concluding, “we do not consider that the VSGC alternatives have been included in the screening process at all.”³⁰⁵ Most of the criticisms were derived from the experts’ conclusions that the screened alternatives improperly altered various suggested road and intersection improvements to make them seem considerably less effective and practical than is the case.³⁰⁶ In the time since VSGC’s experts aired their concerns, VTrans and FHWA have put forth revised alternatives, which have yet to be fully evaluated by VSGC’s experts.³⁰⁷

The outcome of the new study, and its meaningful use of the VSGC alternatives, is still to be determined. Yet, the VSGC study demonstrates that a common-sense, low-cost alternative may, in the context of highway construction, have less impact, while achieving the same or greater benefits than highway capacity expansion without having to make land use changes or substantial investment in public transit. Though these types of measures may not always lead to results that outperform highway capacity expansion, their presentation by VSGC dramatically points to the shortcomings of the CCCH and offers a basis for a new approach.

B. Using NEPA to Change the Transportation Paradigm: The LUTRAQ Experience

Even though the final impact of VSGC’s effort cannot be foretold, VSGC has already used the window provided by NEPA to demonstrate how alternatives can provide the benefits of the highway without opening up lands to sprawl. Such efforts can have success. In Oregon, NEPA provided a successful opportunity for smart-growth groups to fundamentally change an area’s thinking about transportation. In 1988, the Oregon Department of Transportation (ODOT) was advocating for a Western Bypass Highway to address congestion concerns in the western suburban communities of

304. Memorandum from The Louis Berger Group, Inc., to Vt. Agency of Transp. & Fed. Highway Admin., 6–7 (June 2006) available at http://www.circeis.org/documents/general_misc_docs/060609FinalScreeningMemorandumRev7.pdf [hereinafter Louis Berger Memorandum].

305. Memorandum from Lucinda E. Gibson, P.E., Smart Mobility, Inc. & Michael Oman, Oman Analytics to Brian Dunkiel, Vt. Smart Growth Collaborative 1 (Sept. 22, 2005) (on file with author).

306. *Id.* at 1–5.

307. See Louis Berger Memorandum, *supra* note 304, at 6–7 (noting that “68 distinct alternative concepts” were proposed through public input).

Hillsboro, Beaverton, and Tigard in Washington County, the center of the Portland Metropolitan area.³⁰⁸ 1,000 Friends of Oregon (Friends), a non-profit advocacy group that monitors land use planning, along with other groups, opposed the highway.³⁰⁹ Friends began its opposition through legal challenges at the regional planning level.³¹⁰ However, the group quickly decided that to truly effect a change in the plans to construct a bypass highway, a more “positive response” was needed.³¹¹ The EIS that was being performed by ODOT provided an opportunity for Friends to introduce such a response.³¹²

The original scope of alternatives envisioned by ODOT was strikingly similar to those VTrans and FHWA have introduced: “No Build, Transportation System Management, Arterial Expansion/High Occupancy Vehicle Express Service, and the Bypass.”³¹³ Like the FEIS and the REA, ODOT was only planning to consider alternatives, other than no-build, that focused on highway construction or minor improvements to the existing transportation infrastructure.³¹⁴ A land-use-based alternative was not on the drawing board, and certain agencies did not believe that such an alternative was even possible.³¹⁵

Using the EIS process as an opening, Friends decided to come up with its own alternative.³¹⁶ This alternative became LUTRAQ: “Making the Land Use, Transportation, Air Quality Connection.”³¹⁷ LUTRAQ was premised on a very basic assumption: land uses need not be viewed as a constant when addressing transportation concerns.³¹⁸ Instead, LUTRAQ created an alternative suburban land-development pattern that located most household and employment growth on land near planned transit service areas.³¹⁹ Originally skeptical of such an approach, ODOT ended up not only including Friends’ LUTRAQ alternative in its evaluation, but

308. See 1000 FRIENDS OF OREGON, *supra* note 6, at 6 (explaining that the ODOT and the political leadership of Washington County were “close to agreement on building a new freeway”); 8 PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC., MAKING THE CONNECTIONS: TECHNICAL REPORT: at 30–31 (1997), available at http://www.friends.org/resources/lut_vol8.html [hereinafter TECHNICAL REPORT] (noting the need for the highway in the fast-growing suburban county).

309. 1000 FRIENDS OF OREGON, *supra* note 6, at 1.

310. TECHNICAL REPORT, *supra* note 308, at 31.

311. *Id.* at 31–32.

312. 1000 FRIENDS OF OREGON, *supra* note 6, at 17; TECHNICAL REPORT, *supra* note 308, at 32.

313. TECHNICAL REPORT, *supra* note 308, at 30.

314. *Id.*

315. *Id.* at 30, 32.

316. 1000 FRIENDS OF OREGON, *supra* note 6, at 1, 17; TECHNICAL REPORT, *supra* note 308, at 30.

317. 1000 FRIENDS OF OREGON, *supra* note 6, at 1.

318. TECHNICAL REPORT, *supra* note 308, at 30.

319. *Id.*

eventually chose it when it was shown to outperform the highway on virtually every level and comply with air-quality laws.³²⁰

Far from being a radically new way of looking at land use and transportation, LUTRAQ largely looked back to the transit-friendly designs of the early part of the twentieth century to propose centering growth around transit and shaping growth in a manner that did not require dependence on the automobile.³²¹ LUTRAQ was sculpted on three central principles:

[1] Land use plans should direct higher intensity development to locations well-served by transit and should ensure that development is designed for pedestrians, bicyclists and transit riders, as well as auto drivers.

[2] The transportation system should serve and reinforce the nature of that development.

[3] Market strategies should further support that development by correcting some of the current distortions in the pricing of the transportation system and other public facilities.³²²

A primary feature of the LUTRAQ project is transit-oriented development (TOD).³²³ A LUTRAQ report describes TOD this way:

The TOD concept is simple: moderate- and high-density housing, along with complementing public uses, jobs, retail, and services, are concentrated in mixed-use developments located at strategic points along the regional transit system. Each TOD has a centrally located transit stop and core commercial area. Accompanying residential and/or employment uses are within an average 2,000 feet walking distance. The location, design, configuration, and mix of uses in a TOD provides [sic] an alternative to current suburban development trends by emphasizing a pedestrian-oriented environment and reinforcing the use of public transportation.³²⁴

LUTRAQ redesigned current suburban land use patterns to plan for three types of TOD areas: (1) mixed-use centers taking advantage of traditional downtown areas to create walkable space with a high intensity of commercial uses, jobs, residences, and shopping; (2) urban TOD areas

320. *Id.* at 32, 58.

321. 1000 FRIENDS OF OREGON, *supra* note 6, at 8.

322. *Id.* at 7.

323. 1000 FRIENDS OF OREGON, at 6; TECHNICAL REPORT, *supra* note 308, at 35–36.

324. TECHNICAL REPORT, *supra* note 308, at 36.

located outside of mixed-use centers that are more appropriate for high- to medium-density residential development with a core commercial area; and (3) neighborhood TOD areas to emphasize medium-density residential development and local retail.³²⁵ Such TOD areas were found to be capable of accommodating 65% of new residential development and 78% of the new jobs projected for Washington County.³²⁶

The transit component of LUTRAQ sought to ensure that transit served these TOD areas.³²⁷ For the primary forms of transit, two light-rail lines and express buses serving TOD areas were proposed.³²⁸ Feeder buses were also proposed to serve residential areas not directly serviced by light rail or express busing.³²⁹ Bicycle, pedestrian, and roadway improvements were also included.³³⁰ Moreover, street designs were made to provide a grid, or connected system, to link local destinations and thereby alleviate pressure from arterial roads.³³¹ New highway construction was not part of the LUTRAQ alternative.³³²

Additionally, the LUTRAQ alternative contemplated some market strategies designed to correct public policies that arguably favor automobile use.³³³ Primarily, the LUTRAQ alternative imposed a parking charge on solo drivers to work sites within the study area that was not imposed on carpoolers and those not arriving at work destinations.³³⁴ Further, workers within the study area were provided with free transit—with transit costs, at least in part, funded by revenues from solo drivers who were to be charged a parking fee.³³⁵

1. Measuring Up: LUTRAQ vs. Highways

In the final analysis, it was no contest. The LUTRAQ alternative put forth by Friends outperformed the Highways Only alternative in every measure and a Highways/Parking Pricing (charging solo drivers who

325. 1000 FRIENDS OF OREGON, *supra* note 6, at 8–10; TECHNICAL REPORT, *supra* note 308, at 36.

326. TECHNICAL REPORT, *supra* note 308, at 36.

327. 1000 FRIENDS OF OREGON, *supra* note 6, at 11; TECHNICAL REPORT, *supra* note 308, at 36.

328. 1000 FRIENDS OF OREGON, *supra* note 6, at 11.

329. *Id.*

330. *Id.*

331. *Id.* at 8.

332. *See id.* at 16 (stating that ODOT “recommended a preferred alternative that includes only limited road improvements”).

333. *See id.* at 12 (“Many analysts argue that automobile drivers do not pay the full costs they impose on society.”).

334. *Id.*

335. *Id.*

commute to work) alternative in every measure except one—reduction in Vehicles Hours of Delay.³³⁶

For instance, for total home-based work trips, automobiles would account for 88.7% of trips under the Highways Only alternative, but only 78.3% under the LUTRAQ alternative for the total study area and a mere 66.7% for TOD areas, with all other trips occurring by transit, walking, or biking.³³⁷ Auto ownership would drop from 1.9 autos per household under the Highways Only alternative to 1.82 autos per household under LUTRAQ, with that number further declining to 1.63 for the TOD areas.³³⁸ Vehicle trips per household per day would drop from 7.5 under the Highways Only alternative to 7.17 under the LUTRAQ alternative (5.79 for TOD areas).³³⁹ There would be a 43% reduction in Vehicle Hours of Delay (P.M. Peak Hour) under the Highways Only alternative, but this reduction would be 53.2% under LUTRAQ.³⁴⁰ Vehicle Hours of Delay (P.M. Peak Hour) would go from a 5.6% reduction for the Highways Only alternative, when compared to No Build, to a 15.7% reduction under LUTRAQ.³⁴¹ Also, daily VMT would actually increase by 1.6% for the Highways Only alternative, when compared to No Build, but drop by 6.4% under the LUTRAQ Alternative.³⁴²

Similarly, air quality would benefit from the LUTRAQ alternative, while the Highways Only alternative would cause further air pollution when compared to the No Build alternative.³⁴³ Under the Highways Only alternative, emissions of hydrocarbons (HC) and carbon monoxide (CO) were projected to decrease only slightly compared to the No-Build alternative (0.2% and 0.6% respectively).³⁴⁴ Meanwhile, compared to No Build, nitrogen oxides (NO_x) for the Highways Only alternative were projected to increase by 6.7%.³⁴⁵ However, the LUTRAQ alternative,

336. 5 CAMBRIDGE SYSTEMATICS, INC. & PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC., MAKING THE LAND USE TRANSPORTATION AND AIR QUALITY CONNECTION: ANALYSIS OF ALTERNATIVES 21 (1996), available at http://www.friends.org/resources/lut_vol5.html [hereinafter ANALYSIS OF ALTERNATIVES]. The Highways/Parking Pricing alternative was projected to reduce P.M. Peak Hour Vehicle Hours of Delay by 58.7% over No Build; LUTRAQ by 53.2%. *Id.* Moreover, there was no accounting for induced travel, so the benefits of the Highway Only with Parking Pricing alternative may be exaggerated. *See id.* at 22 (noting the LUTRAQ alternative would ensure “much higher rates of transit ridership and walk/bike travel and lower levels of vehicle miles of travel”).

337. *Id.* at 15. The figure was 89.7% for No Build. *Id.*

338. *Id.* at 13. The figure was 1.91% for No Build. *Id.*

339. *Id.* at 20. The figure was 7.53% for No Build. *Id.*

340. *Id.* at 21.

341. *Id.* at 24.

342. *Id.*

343. *Id.* at 25.

344. *Id.* at 24–25.

345. *Id.*

compared to No Build, demonstrated reductions in all of these pollutants—HC by 6.2%, NO_x by 2.6% and CO by 6.7%.³⁴⁶ Similarly, the Highways Only alternative, compared to No Build, saw increases of 1.6% in emissions of the greenhouse gases methane (CH₄), nitrous oxide (N₂O), and carbon dioxide (CO₂), as well as an energy consumption increase of 1.6%.³⁴⁷ Meanwhile, the LUTRAQ alternative, compared to No Build, showed a projected reduction of 6.4% in emissions of CH₄, N₂O, and CO₂, as well as a 6.4% reduction in energy consumption.³⁴⁸

2. Choosing LUTRAQ

The LUTRAQ alternative was published in 1992, and with the help of Friends and other groups, ODOT accepted it as an alternative in the EIS process.³⁴⁹ When the EIS process concluded in 1995, LUTRAQ became the only viable alternative because it was the sole alternative considered that would both comply with the Clean Air Act and be consistent with Oregon's growth containment policies.³⁵⁰ In the summer of 1996, ODOT recommended LUTRAQ plus limited road improvements as the preferred alternative.³⁵¹ Friends had successfully used NEPA to turn transportation-thinking in Oregon on its head, and the Western Bypass was abandoned.

C. LUTRAQ's Lessons for Vermont

There are many lessons that can be drawn from the LUTRAQ experience. Primarily, it shows the importance of citizen participation that NEPA and other similar processes provide. It also highlights the need for concerned groups to take advantage of such opportunities by offering a fresh vantage point towards solving transportation problems. If Friends had not initiated the LUTRAQ study, there is little to indicate that ODOT would have looked for such an innovative solution.³⁵² In fact, agency proponents originally viewed the Bypass as impracticable or impossible.³⁵³ LUTRAQ represented a fundamental change in thinking about transportation issues in Oregon that defied the previously institutionalized approaches. Vermont is

346. *Id.*

347. *Id.* at 25.

348. *Id.*

349. 1000 FRIENDS OF OREGON, *supra* note 6, at 16; TECHNICAL REPORT, *supra* note 308, at 32.

350. See 1000 FRIENDS OF OREGON, *supra* note 6, at 16 (recognizing that "the Western Bypass was inconsistent with Oregon's growth containment policies").

351. *Id.*

352. TECHNICAL REPORT, *supra* note 308, at 32.

353. *Id.*

in need of a similar epiphany. Hopefully, the VSGC study can be the catalyst for that epiphany.

LUTRAQ itself may or may not be a viable option for Chittenden County. There are some very significant differences between the Portland area and Chittenden County. One difference is size. Another difference is Oregon's strong state land use law that greatly empowers a regional planning body and has imposed an "urban growth boundary," which contains the limits of growth in the Portland metropolitan area.³⁵⁴ However, the Burlington region does have other tools at its disposal that may be useful in both containing sprawl and fostering land use patterns to reduce congestion. At the very least, a land-use-based alternative should be explored.

Perhaps one of the biggest questions regarding a land use alternative in Chittenden County is how and to what extent TOD might work in the region. To be effective, studies suggest that TOD must not just be adjacent to transit, but truly orientated to transit. This means that "development must be mixed-use, walkable, location-efficient development that balances the need for sufficient density to support convenient transit service with the scale of the adjacent community."³⁵⁵ Moreover, size should not necessarily be seen as a barrier to TOD. Studies have stressed that the success of TOD depends more on how the growth functions rather than a region's size.³⁵⁶

For Chittenden County to realize TOD growth, a land-use-based alternative should incorporate and implement measures of planning, design (or functionality), and transportation infrastructure investment that connects TOD areas.³⁵⁷ First, planning measures would have to regionally promote TOD.³⁵⁸ That some County planning efforts already reflect principals compatible with TOD is encouraging. For instance, Essex Junction has implemented zoning provisions for its new town center, where buildings "must have mixed uses, entrances on public streets, multiple stories, and

354. *Id.* at 59. Washington County's population is 449,794. U.S. CENSUS BUREAU, U.S. DEP'T OF COMMERCE, STATE AND COUNTY QUICK FACTS: WASHINGTON COUNTY, OREGON (2007), <http://quickfacts.census.gov/qfd/states/41/41067.html>. The City of Burlington's population is approximately 40,000. 2000 U.S. CENSUS, *supra* note 32. Chittenden County's population is approximately 150,000. *Id.*

355. DENA BELZER & GERALD AUTLER, THE BROOKINGS INST. CTR. ON URBAN & METRO. POLICY & GREAT AM. STATION FOUND., TRANSIT ORIENTED DEVELOPMENT: MOVING FROM RHETORIC TO REALITY Foreword (2002).

356. *Id.*

357. *Id.* at 25; *see also* SMART GROWTH NETWORK & INT'L CITY/COUNTY MGMT. ASS'N, GETTING TO SMART GROWTH: 100 POLICIES FOR IMPLEMENTATION 61-67 (2002), *available at* <http://www.smartgrowth.org/pdf/gettosg.pdf> [hereinafter GETTING TO SMART GROWTH] (detailing ways to incorporate land use design into transportation infrastructure).

358. GETTING TO SMART GROWTH, *supra* note 357, at 15.

shared parking.”³⁵⁹ But this is not true of many Chittenden County towns, where uses are separated, large parking lots and building set-backs are encouraged, and large, single-story box stores are allowed. This type of planning often permits strip, rather than node development, and provides few amenities for pedestrian and bicycle use.³⁶⁰ In some towns, like Williston, significant sprawling, auto-dependent growth has already occurred that is not compatible with TOD.³⁶¹ A community must do more than just simply plan for compact, mixed use growth and building transit nearby. TOD must also be properly designed to incorporate transit and pedestrian use in a manner that is safe, convenient, and easy.³⁶²

There will be many other challenges to any alternative seeking to implement TOD in Chittenden County. Many of these are problems of perception. For instance, people may fear the loss of their neighborhood’s character, if mixed uses and housing types are promoted.³⁶³ Suburban developers and investors may believe that TOD is a riskier proposition than the sprawling development they are accustomed to, making them reluctant to develop in an area where parking is limited and transit or pedestrian access is the principal means of reaching the development.³⁶⁴

359. CLF & VFOS, *COMMUNITY RULES*, *supra* note 26, at 53; e-mail from Elizabeth Humstone, Executive Dir. & Urban Planner, Vt. Forum on Sprawl, to author (Dec. 7, 2004) [hereinafter Humstone, Dec. e-mail] (on file with Vermont Law Review).

360. Humstone, Dec. e-mail, *supra* note 359; *see also* BELZER & AUTLER, *supra* note 355, at 18–27 (discussing land use challenges to TOD development); CLF & VFOS, *COMMUNITY RULES*, *supra* note 26, at 50 (describing suburban growth planning and ways to achieve smart growth goals in suburban planning).

361. Humstone, Dec. e-mail, *supra* note 359.

362. For examples of how large parking lots, major roadways without easy crossing points, intimidating traffic conditions, long distances between uses, and other impediments to pedestrian use discourage people from using transit and other non-automobile modes of transportation and cause TOD areas to fail, *see* GETTING TO SMART GROWTH, *supra* note 357, at 25–32 and CLF & VFOS, *COMMUNITY RULES*, *supra* note 26. A recent study has identified six components relating to design that allow for TOD to work. These are: (1) location efficiency that entails mixed use and pedestrian-friendly areas with dense growth patterns where driving is an option, not a necessity; (2) value recapture, or achieved savings from having multi-modal options both publicly (a reduced need for expensive transportation projects, such as highways) and privately (saved costs on gas, parking, number of cars per household), which include the idea of “location efficient mortgages,” a market mechanism that allows potential homeowners to borrow more money if they buy in a designated location where it can be shown that they will be able to reduce their transportation costs; (3) livability, which, although subjective, can be measured by decreased commute burdens, improved access to retail, services, recreational and cultural opportunities, and improved environmental quality; (4) financial return for private investors and the public that may realize greater tax returns from local retail sales, greater property values, and less demand on services for TOD than for more disperse growth; (5) choice in housing, retail, and transportation; and (6) efficient land use patterns preserving open space and farmland, allowing for shorter commutes and fostering improved environmental quality. BELZER & AUTLER, *supra* note 355, at 8–17.

363. BELZER & AUTLER, *supra* note 355, at 18.

364. *Id.* at 21; *see also* GETTING TO SMART GROWTH, *supra* note 357, at 4 (“Financiers view

There is also a chicken-and-egg problem. For TOD to work, good transit infrastructure must be in place.³⁶⁵ For transit to work, TOD must exist.³⁶⁶ Thus, coordinating the moving parts needed to achieve TOD—local planning, regional goals, provision of infrastructure, attracting the right public and private investors, and ensuring proper design—is not an easy task to pull off. Commitment must come from many sectors, or any effort is likely to fail.³⁶⁷ Without leadership and follow through, getting this commitment is unlikely.³⁶⁸

Though the Burlington region's small size, lack of an urban growth boundary or strong regional planning entity, and other factors present challenges to a land-use-based alternative, an honest assessment of such an alternative may reveal that it is viable. In Portland, until a land-use-based alternative was explored, the conventional wisdom there was that such an alternative was not practical. Unless the question is asked and examined, it will remain unanswered.

D. The Burlington–Essex Corridor Study: A Blueprint for Smart-Growth-Based Transportation Investment in Chittenden County

mixed-use development as complex and difficult.”).

365. BELZER & AUTLER, *supra* note 355, at 24–25; GETTING TO SMART GROWTH, *supra* note 357, at 62 (“In short, [communities] are coupling a multimodal approach to transportation with supportive land use patterns that create a wider range of transportation.”).

366. BELZER & AUTLER, *supra* note 355, at 24–25.

367. *See id.* at 27 (“[R]eal estate investment decisions are made on the basis of many criteria, and although transit can help catalyze development, transit alone is not sufficient when market conditions are not supportive.”).

368. This was certainly the case for Portland, where cooperation between groups like Friends and involved agencies made LUTRAQ possible. *See supra* Part IV.B. Similarly, in Plano, Texas (an exurb north of Dallas), a plan for TOD based around a new rail line and station came about in large part due to the aggressive leadership of the city to realize TOD as well as its appointment of an official to oversee all aspects of the process, including investing in infrastructure. BELZER & AUTLER, *supra* note 355, at 25–26. This leadership helped investors achieve a comfort level for investing and developing in the city. *Id.* Note that successful TOD growth is sometimes seen in “new urbanism,” where communities use mixed-use development, transit, community centers, pedestrian-friendly design, and other smart growth ideas to create development that reflects traditional growth centers reminiscent of the early transit-oriented “street-car” suburbs. *See* CLF & VFOS, COMMUNITY RULES, *supra* note 26, at 50 (describing the themes involved in new urbanism). The Kentlands in Gaithersberg, Maryland is a frequently cited example of a “new urbanist” community that has found success by mixing uses, housing types, public transit options, and traditional development patterns. *Id.* However, new urbanism has its share of detractors. Though they may find new urbanism preferable to much suburban growth, they argue that it is still new growth on the outskirts of urban areas—growth that often comes at the expense of downtown areas with existing smart growth qualities where investment in revitalization would have provided the same smart growth benefits without developing new land. *See, e.g.*, ALEX MARSHALL, HOW CITIES WORK: SUBURBS, SPRAWL, AND THE ROADS NOT TAKEN 1–39 (H. Randolph Swearer et al. eds., 2003) (comparing new urbanist Celebration, Florida to Kissimmee, Florida, a nearby traditional growth center in need of revitalization).

Approximately a year before the REA was issued, a separate transportation study for the region took a very different approach in its consideration of the area's land use goals.³⁶⁹ The Burlington to Essex travel corridor contains approximately half of the County's jobs and traffic.³⁷⁰ Spurred by data suggesting that congestion along the corridor will drastically increase over the next couple of decades, the CCMPO commissioned a study of alternative solutions to determine how best to alleviate the anticipated traffic problems.³⁷¹

Unlike the REA, the study's analysis of alternative solutions expressly recognized the region's land use and transportation goals and incorporated these goals in the purpose and need of the study.³⁷² The study took into account the need to "provide balanced funding to all transportation modes so that opportunities for intermodal services can be fully achieved."³⁷³ The study also declared that "[p]rograms designed exclusively to increase highway capacity for single-occupant vehicles should be undertaken only when no better alternative can be found," and stated an objective to "[d]ecrease automobile and truck dependency by offering sustainable transportation alternatives."³⁷⁴

The study looked at five alternative solutions for the corridor.³⁷⁵ The first alternative was a "No-Build" scenario that assumed construction of the CCCH sections A–B, but not sections G–J, the final Colchester section of the highway.³⁷⁶ The second was a "Transportation System Management" scenario that consisted of certain road and intersection changes, increased bus service, and two new bus routes.³⁷⁷ The third was a "Highway" scenario that considered completion of the CCCH, new interchange construction, and the widening of Route 15.³⁷⁸ The fourth was a "Commuter Rail" scenario that upgraded a preexisting freight line from Burlington to Essex and ran commuter trains either hourly or half-hourly

369. DMJM & HARRIS, *supra* note 120.

370. The travel corridor extends from Central Burlington through Winooski to Essex Junction, with Vermont Route 15 as its "spine." *Id.* at ES-7 to -9. Downtown Burlington, downtown Winooski, portions of Colchester, Essex Junction, two major universities, two major area hospital campuses, and IBM are all located within the corridor. *Id.*

371. *Id.* at 4-1 to -74. Data suggests that the corridor will experience a 60% increase in daily person trips from 2000 to 2025, a 51% increase in daily VMTs for that period, and an overall increase in peak hour VMT congested traffic of 374% for the time frame. *Id.* at 2-4 tbl.2-1.

372. *Id.* at 2-5 to -6.

373. *Id.* at 2-6.

374. *Id.*

375. *Id.* at 4-1.

376. *Id.* at 4-1 to -6.

377. *Id.* at 4-6 to -11.

378. *Id.* at 4-11 to -18.

with feeder bus service from train stations to various locations.³⁷⁹ The final was an “Express Bus” alternative that would upgrade existing bus service and include a series of feeder bus routes to make usability easier for residents and workers in the corridor.³⁸⁰

The study did not specifically look at land use changes, either alone or in conjunction with certain infrastructure improvements, as an alternative. The study, however, is a stark contrast to the REA because it considered alternatives that foster the region’s growth goals and noted that highway construction is likely to counter those goals. For instance, in discussing the commuter rail alternative, the study found that:

Rail facilities have a demonstrated history of promoting more dense land use around stations and along the rail line. . . . The change in land use is compatible with the county’s established growth center policies, and has the potential to encourage development that would further promote those policies.³⁸¹

The study came to a much different conclusion regarding highways:

The Highway Alternative [consisting largely of the completion of

379. *Id.* at 4-27 to -72. This alternative also assumed operation of a Charlotte to Burlington flyer, which Governor Douglas discontinued. B.J. Roche, *N.E. Scores Poorly on Smog Test*, BOSTON SUNDAY GLOBE, May 4, 2003, at B6; *see also* CHITTENDEN COUNTY METRO. PLANNING ORG., TRANSACTIONS 1–2 (2003) [hereinafter, CCMPO, TRANSACTIONS] (discussing the suspension of the Champlain Flyer’s service with VTrans Secretary Pat McDonald); JIM DOUGLAS, THE DOUGLAS VISION: A PLAN FOR PROSPERITY 28 (2002), http://www.vermont.gov/governor/priorities/douglas_vision.pdf (quoting Governor Douglas’s statement that he “advocate[ed] terminating the Champlain Flyer at the end of the federal demonstration period, unless ridership figures improve dramatically”). The Champlain Flyer perhaps illustrates some of the pitfalls of transit investment. While the Flyer connected to Burlington, which has components that make it quite amenable to transit, its origination and destination locations in neighboring Shelburne and Charlotte were not connected to areas particularly well suited to transit. The stops were, for the most part, not near growth centers or walkable to many homes, shops, or other uses. The rail only extended 12 miles, and other than Burlington, did not service a dense population center. Most successful commuter rail services extend longer distances between two or more dense population centers. Moreover, the Flyer’s Burlington station was on the waterfront, an arguably inconvenient location that is about one-half mile from most retail and downtown employment destinations and just under a mile from the University of Vermont and Fletcher-Allen hospital, both major employers. This is a long walk for commuters, especially uphill and in the winter. E-mail from Michael Oman, Transp. & Planning Consultant, Transp. Planning Dir., CCMPO, 1992–1997, to author (Dec. 14, 2004) (on file with Vermont Law Review); *see also* CCMPO, TRANSACTIONS, *supra*, at 1 (explaining that a successful commuter train must be affordable, convenient, and connect substantial population bases). VTrans Secretary McDonald stated that if federal funding is available, VTrans has a goal to reinstate commuter rail connecting larger population bases such as Burlington, Rutland, and Middlebury. *Id.*

380. DMJM & HARRIS, *supra* note 120, at 4-18 to -26.

381. *Id.* at ES-22.

the CCCH], because it entails construction of infrastructure on land currently being used for other purposes, much of it undeveloped, has the potential for serious environmental impacts. Construction of a major transportation facility far from existing nodes of development is likely to work against growth-center-based development.³⁸²

Furthermore, the study also noted the severe environmental impacts of highway development, showing that the “Highway Alternative” would have “significant impacts” on land use, wetlands, and floodplains.³⁸³ The study found that no other alternative would have such significant impacts.³⁸⁴

Yet the study danced around the question of whether to endorse the politically charged CCCH, stating that since the CCCH “originated from efforts outside this alternatives analysis, it is recommended that the concept[] be developed further through separate analysis.”³⁸⁵ Moreover, the study left a major increase in highway capacity out of its final recommendation and instead endorsed a combination of TSM, rail, bus, and minor road and intersection improvements, such as a roundabout at Essex Junction’s Five Corners, as the best solution for the corridor.³⁸⁶

By focusing on the overall impacts of transportation choices on land use patterns and smart growth goals, the Burlington-Essex study is arguably a more balanced and forward-looking study than the REA. It openly acknowledged the high cost and potentially sprawling effects of highways.

382. *Id.* at 6-10.

383. *Id.* at ES-29 fig.ES-10.

384. *Id.* In addition, while acknowledging certain benefits of the construction of the CCCH, such as enhancing regional connectivity, the report also pokes some holes in the myths surrounding the need for the CCCH. *See id.* at 4-17 (discussing the costs, environmental impacts, and potential traffic delays associated with each alternative). Primarily, the study concluded that the CCCH will not have an overall benefit for Route 15, because it will merely redirect traffic from certain intersections to others, and will cause a significant increase in traffic flowing into the troubled Essex Five Corners. *Id.* at 4-17. In contrast, the study concluded that “[t]he commuter rail alternative offers the potential to increase the capacity of the corridor far beyond what would be possible with highway improvements.” *Id.* at 8-2. However, the study did express that this capacity may not be fully realized due to low ridership. *Id.* Cost is also a factor. Of all the alternatives looked at, the Highway Alternative “has the highest capital costs.” *Id.* at 6-10. Capital costs are estimated at about \$70 million. *Id.* at ES-18. Rail costs are also expensive, especially if half-hour service is provided, but still less costly than highway construction. *Id.* at ES-22. Hourly rail service would cost \$23 million, excluding stations; half-hourly rail service would cost \$62.5 million excluding stations. *Id.* Stations would add about \$3.6 to \$5.4 million in cost, “depending on the type and location of the facilities.” *Id.*

385. *Id.* at 8-1.

386. *Id.* at 8-1 to -3. While the study repeatedly noted that the CCCH will actually worsen traffic performance at Essex Junction’s Five Corners, it stated that a roundabout has the ability to bring the intersection “to a Level of service A, the highest rating available.” *Id.* at ES-17. However, the report stated that further study of a roundabout is needed to assess its impacts on pedestrian and bicycle use. *Id.*

It discussed solutions that would foster the County's land use goals and could provide opportunity for TOD. By doing so, it looked much less favorably upon both the benefits and potential costs of highway capacity expansion. As such, the study endorsed a solution more akin to that put forth by the VSGC than to the CCCH.

E. Looking Forward: A Vision for a Sustainable Transportation Solution in Chittenden County

Both the VSGC study and the Burlington to Essex corridor study begin to shed light on the high costs and slim benefits of the CCCH by asking the right questions about the effects transportation investment can have on land use and framing alternatives to answer those tough questions. A thorough analysis of land-use-based alternatives may further reveal the CCCH to be a poor investment in comparison. The CCRPC has already set the following goal:

Improve the mass transit system by the expansion of the Chittenden County Transportation Authority [bus service] service area and frequency of operation, introduction of passenger and commuter rail and *construction of multi-modal centers, transit-oriented developments*, and park-and-ride lots with express bussing.³⁸⁷

The CCRPC has also laid out a planning area concept that seeks to create both metropolitan and village planning areas that have “multiple modes of travel, including pedestrians, cyclists and mass transit that connect to the same land uses available to the automobile.”³⁸⁸ The CCRPC recognizes that “high-density, mixed-use Planning Areas can reduce motor vehicle emissions by reducing the need for automotive travel” and “serve to maintain acceptable federal air quality standards in the region.”³⁸⁹

Of course, unlike Portland, which has a very powerful regional planning body, the CCRPC has little power to coerce localities into making specific planning decisions.³⁹⁰ But the CCRPC could use existing mechanisms to realize TOD in the region. For instance, Vermont statutes provide a certification process whereby the regional planning commission may approve local plans for conformance with state goals, the regional

387. CCRPC, 2001 REGIONAL PLAN, *supra* note 36, at 4.17 (emphasis added).

388. *Id.* at 3.25–3.26.

389. *Id.* at 8.2.

390. See VT. STAT. ANN. tit. 24, §§ 4345–4345a, 4349–4350 (2004) (announcing the powers of a regional planning commission and its relations with municipalities).

plan, and the plans of other municipalities in the area, all of which may promote TOD areas.³⁹¹ Although not mandatory, there is an incentive for towns to seek certification to be allowed to levy impact fees on development.³⁹² Once a town's plan is certified, the regional planning commission shall confirm at least twice in a five-year period that the municipality is involved in a continuing planning process that will result in a plan that is consistent with state goals.³⁹³ Furthermore, apart from local plans and zoning, larger projects must separately conform to regional goals under Vermont's Act 250 development review.³⁹⁴ This provision helps ensure larger developments are consistent with the regional plan.

New tools could be introduced as well. For instance, in Ottawa, Canada, major commercial developments are required to be located near transit stations and to be pedestrian friendly—something that has led to the great success of Ottawa's bus service.³⁹⁵ Such a requirement in Chittenden County could have a profound effect by changing developments like the sprawling, automotive-dependent Taft Corners into more compact, pedestrian friendly areas around transit centers. It would also likely foster more coordination between municipalities and investors. Municipalities would be inclined to invest in transit infrastructure to attract major developers, and in turn, major developers would look to locate near transit in order to be permitted.

Additional incentives could be used as well. Developers who meet smart growth criteria could be given expedited permit review or have certain permitting criteria waived. Employees could be given free transit rides to and from work, increasing pressure on employers to locate in areas served by transit so as to add perks for their employees. Public investments in amenities such as compact parking garages, which go up instead of out, could make it desirable for investors to develop around parking garages instead of building large parking lots that create impervious cover and separate buildings.³⁹⁶

391. *Id.* § 4350(b).

392. *See id.* §§ 4350(e)(3), 5203(a)(1) (outlining procedures towns must take in order to levy any impact fees).

393. *Id.* § 4350(a).

394. VT. STAT. ANN. tit. 10, § 6086(a)(10) (2006).

395. 1000 FRIENDS OF OREGON, *supra* note 6, at 18–19.

396. Parking requirements are often a major impediment to the type of compact growth that is compatible with transit use. GETTING TO SMART GROWTH, *supra* note 357, at 12; CLF & VFOS, COMMUNITY RULES, *supra* note 26, at 30–31. Parking lots take up a lot of space, separating buildings, creating dead zones, and making areas seem automobile-focused. *See* CLF & VFOS, COMMUNITY RULES, *supra* note 26, at 30 (stating that when parking consumes 9% or more of a parcel's area, pedestrian use wanes). Nevertheless, surface lot parking is a cheap way for developers to comply with parking requirements. GETTING TO SMART GROWTH, *supra* note 357, at 12. Public investment in

Also, business improvement districts, which receive special services from a town in exchange for additional assessments, could be used to foster TOD areas. Burlington's Church Street is an area that has such an assessment. Property owners located on the downtown street's pedestrian mall receive year-round maintenance; management of certain licenses and permits; advertising; and promotions in exchange for a fee.³⁹⁷ Additionally, Vermont already has a program that gives incentives to developers who locate in areas designated as downtowns by a state board after a town takes certain steps supportive of such development. These steps include: (1) tax credits for rehabilitation of older or historic buildings; (2) planning grants for site assessments of contaminated sites; (3) funding from the state infrastructure bank and state transportation fund; and (4) rebates for the cost of sprinkler systems for building in downtown development districts.³⁹⁸ Moreover, developers may take advantage of a transfer of development rights (TDR) program. This is a mechanism allowing higher density development beyond what would be permitted under an existing zoning overlay in exchange for restrictions on land in another area where development could otherwise occur.³⁹⁹ TDR is a mechanism available under Vermont law and could also be used to direct growth to TOD.⁴⁰⁰

Finally, towns with plans approved by the regional planning commission already have the ability to assess impact fees on development.⁴⁰¹ These fees can be used by towns to recoup costs on services from sprawling development.⁴⁰² Avoidance of such fees can be a further incentive for developers to locate in TOD areas. Chittenden County has the right goals and many of the right tools to realize TOD and a land-use-based-alternative. What is lacking is a comprehensive roadmap for such an alternative.

F. Recommendations

To reiterate, the new study *must* ask the right questions about growth and transportation in Chittenden County in order to present alternatives that

parking garages and allowing for on-street and shared parking to count towards parking requirements are examples of ways that communities can decrease the amount of land needed for parking and foster smart growth. *Id.*; CLF & VFOS, COMMUNITY RULES, *supra* note 26, at 30–31.

397. CLF & VFOS, COMMUNITY RULES, *supra* note 26, at 16.

398. *Id.* at 19–20.

399. *Id.* at 82.

400. VT. STAT. ANN. tit. 24, § 4402(8) (2004). However, certain state standards must be met for TDR in Vermont. *See id.* § 4423 (listing the requirements for bylaws establishing TDR).

401. *Id.* § 4350(e)(3).

402. CLF & VFOS, COMMUNITY RULES, *supra* note 26, at 76–77.

will be effective, affordable, and environmentally responsible. Its small scope and limited purpose and need signal cause for worry. The VSGC alternatives need thorough and thoughtful consideration. In addition, FHWA and VTrans should explore land-use-based alternatives for the County that:

- Commit to public investment in transit, such as an efficient and convenient rail system and an improved bus system;
- Identify TOD areas to be connected by transit;
- Seek mechanisms to coordinate entities on a regional and local level to ensure proper planning and design so that the TOD areas function properly, and growth is directed towards these areas;
- Ensure that planning outside TOD areas comports with smart growth goals by preserving open space and agricultural land, not allowing strip development, and not providing sewer and other services to remote areas, while imposing impact fees on sprawling development;
- Provide incentives to investors to pursue smart growth development, such as permitting incentives, loan guarantees, tax breaks, business improvement districts, and TDR;
- Provide incentives to citizens to make smart growth decisions in their own life and investment choices, such as location efficiency mortgages allowing homeowners to borrow more if they buy in a transit and pedestrian area where their transportation costs will be less, and providing free transit for commuters to and from work;
- Look at market strategies that businesses can implement to reduce congestion, such as ride-share programs;
- Allow for commitment to other infrastructure investment to support TOD areas, such as parking garages, sidewalks, and the placement of community buildings, such as schools, post offices, libraries; and municipal buildings, in TOD areas; and
- Explore the possibility of an urban growth boundary to further contain and direct growth.

There are no indications that the new study will endeavor to look comprehensively at land-use-based solutions. Unfortunately, this would be a missed opportunity.

In a context broader than the CCCH, there are certain changes in the NEPA regulatory requirements for major highway investment. These changes could also make NEPA a more useful tool in helping communities like the Burlington region reach a more informed decision about their

transportation investments. These changes should include:

- In addition to current standards, requiring a detailed study of a highway project's land use impacts that specifically accounts for local and regional planning goals, analyzing whether the highway furthers, and whether it will affect, future local zoning and planning; this analysis would have to look beyond immediately affected towns and look to broader regional trends;
- As part of an analysis detailing growth impacts, requiring an examination of the project's potential effects on future transportation investment with respect to whether the growth that will result due to the highway construction will be compatible with future transit and multimodal investment, or will result in growth and land use patterns that make the successful implementation of such transportation infrastructure more difficult and less likely;
- For any major highway project, requiring that a land-use-based alternative be considered, and, if one is available, evaluate how regional and local institutions can be coordinated to implement it;
- Specifically requiring an analysis of the possible impacts to climate change of all alternatives considered for all highway projects, which will ensure that an analysis takes place even when a highway alternative, such as the CCCH, will arguably not have a drastic increase in VMT, forcing it to be compared to other alternatives that may significantly reduce VMT and greenhouse gas emissions; and
- Finally, requiring an analysis of a "cost-effective" alternative that looks solely at system-wide TSM and TDM measures, such as roundabouts, which do not increase capacity.

Without NEPA, bulldozers and cement trucks would likely be constructing the CCCH at present. Instead, Vermont has time to rethink its growth and transportation future before it makes one of its most significant transportation investments ever. Such an investment deserves the most thorough consideration. This has not yet occurred. This time, the stakeholders are responsible for making sure that it does.

CONCLUSION

Major highway transportation investments have serious effects on an area's land use patterns and, consequently, environmental quality. Yet, as regions grapple with the challenges of sprawl and congestion there remains

a temptation to try to build a way out.

Sprawl and the CCCH were correctly labeled by renowned environmental author Bill McKibben as “global warming machines.”⁴⁰³ We know highway construction spurs sprawl. We have seen areas like Multnomah County, Oregon reverse its trend of upward GHG emissions and begin to approach sustainable levels by investing in ways to get people out of their cars.⁴⁰⁴ We are aware there are better ways to invest in our ability to get around.

NEPA has given Vermont another, and perhaps last, chance to decide how responsibly and effectively it will invest in its transportation future. Thus far, too many of Vermont’s decision makers have been stubborn in their commitment to a highway that will put Chittenden County on a path towards more sprawl, pollution, and GHG emissions. The NEPA process has been used to justify this poor choice. Yet, the process has also allowed for pause that has given the opportunity for it to be made clear that more promising alternatives exist.

This is a critical moment for Vermont. How VTrans and FHWA carry out the forthcoming study—either as a thorough and objective consideration of the possible alternatives or, as they have done thus far, as a means to justify the highway—will determine if Vermont remains a model for environmental stewardship, or another paradise paved over.

403. Candace Page, *Global Warming*, BURLINGTON FREE PRESS, Jan. 11, 2007, available at http://www.organicconsumers.org/articles/article_3792.cfm.

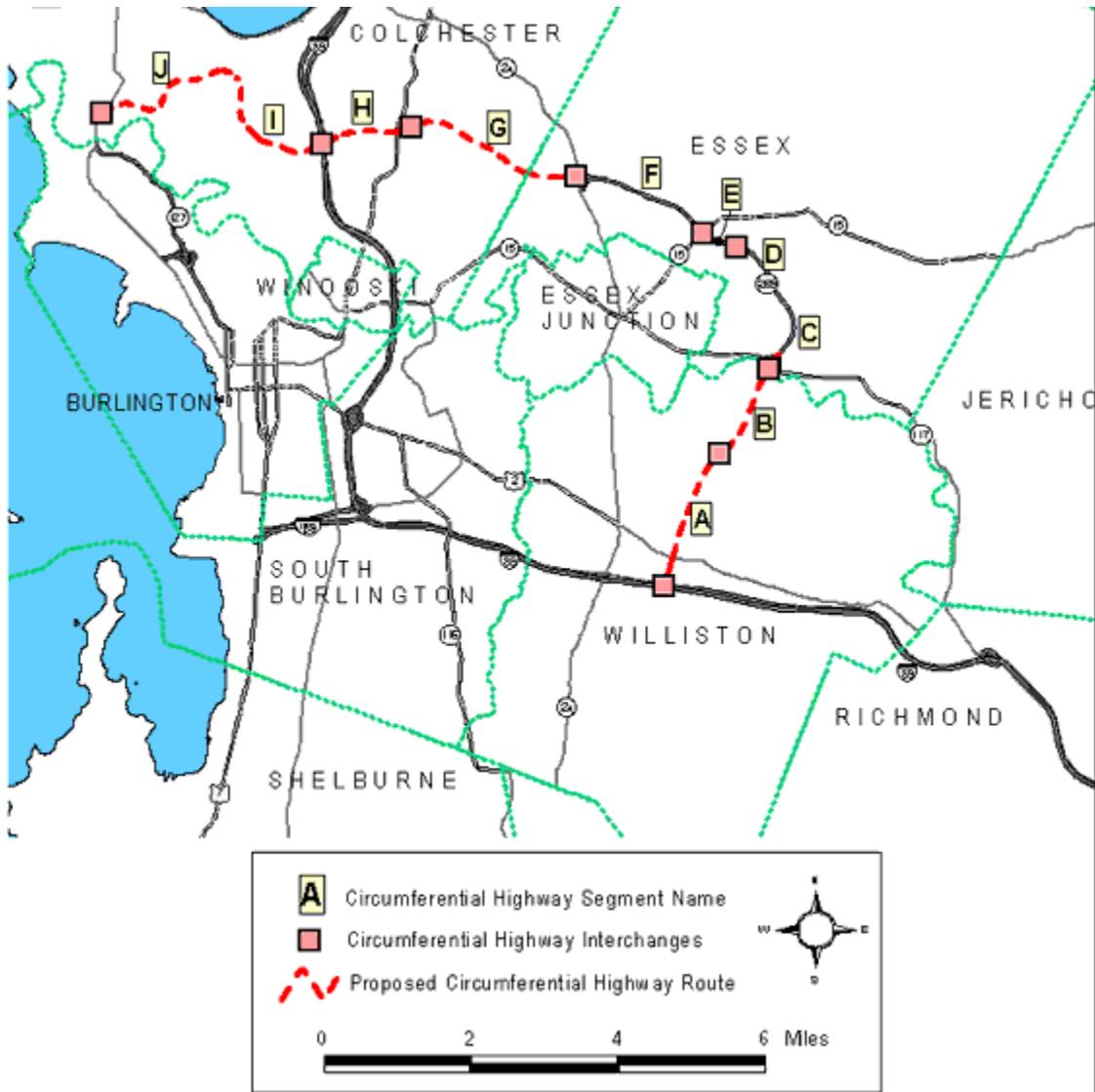
404. MARIA ROJO DE STEFFEY ET AL., MULTNOMAH COUNTY & CITY OF PORTLAND, A PROGRESS REPORT ON THE CITY OF PORTLAND AND MULTNOMAH COUNTY LOCAL ACTION PLAN ON GLOBAL WARMING I (2005).

APPENDIX



TerraServer image created by USGS on April 25, 1999

This is an aerial photograph of the Burlington, Vermont region. As can be seen, Burlington is the dense growth center area resting along the coast of Lake Champlain. Interstate 89 can be clearly seen making its way through the area, starting from the lower-right-hand corner of the picture, going almost due west before turning north, forming a roughly inverse “S” shape to the east of downtown Burlington. The river in the northern portion of the image is the Winooski River.



CCCH route proposed by Chittenden County Metropolitan Planning Organization

The above map shows the proposed route of the CCCH, with interchanges indicated. The highway will create a significant corridor for travel and development in the area to the north and east of Burlington, creating a series of interchanges in Williston, Essex, and Colchester.



TerraServer image created by USGS on April 25, 1999

The above image shows downtown Burlington. The street system is mainly a grid, with residential and commercial areas close together and mixed. This is a good example of compact development amenable to pedestrian use.



TerraServer image created by USGS on April 25, 1999

This image shows an interchange off of Interstate 89 in Williston. It is on the exact same scale as the preceding image. This area is known as Taft Corners. It is a classic example of sprawl, with dispersed, big-box stores off an arterial road and interchange. Note the distance between buildings and the amount of space devoted to parking.

Also the same scale as the image of downtown Burlington, the image below shows an interchange off the built section of the CCCH in Essex. Like the image of Taft Corners, development at this interchange is representative of dispersed, auto-dependent growth typical of sprawl. Again, vast parking lots and busy, multi-lane roads separate buildings and uses, making pedestrian use difficult, inconvenient, and unsafe.



TerraServer image created by USGS on April 25, 1999



Transit-oriented development map by 1000 Friends of Oregon

This image, from the 1997 LUTRAQ Summary, shows transit-oriented development (TOD), as envisioned in the LUTRAQ study. Instead of dispersed growth at an interchange, TOD seeks to promote mixed uses such as housing; a retail and civic center; and office space centered around a light rail station. Buildings and uses are close and designed for pedestrians.