

WO#4.1 Technical Memorandum No. 2

**Indirect and Cumulative Impact Assessment:
Workshop 3
Discussion Notes**

Circ-Williston
Environmental Impact Statement

March 17, 2006

Prepared on behalf of:



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Circ-Williston EIS Indirect and Cumulative Impact (ICI) Workshop 3 March 9, 2006

Discussion Notes

The third workshop on Indirect and Cumulative Impacts for the Circ-Williston EIS was held on Thursday, March 8, 2006 at the Champlain Valley Exposition Center in Essex Junction. This memorandum provides an overview of the presentation given by the consultant team at the workshop and documents the questions and comments received by the attendees.

The workshops were open to the public and twenty-four (24) people were in attendance in addition to the facilitators for the two-hour session. In addition to public notices, announcements for the workshop were sent to individuals who have attended previous events, and those who have submitted comments during scoping or requested information. Staff from state and local resource, planning, and economic development agencies and not-for-profit and citizen groups were also invited. See Appendix A for a list of attendees.

The workshop was the third in a series of five scheduled to be held on the topic during the EIS process. The purpose of the ICI technical workshops is to solicit specific input on the analysis that will be used to evaluate Circ-Williston alternatives and their potential effects on land use/growth and development patterns and related impacts to resources. The first workshop was designed to introduce participants to the eight-step ICI evaluation process that will be used in the EIS and solicit input on data collection and trend analysis, inventory of notable features, ICI cause effect relationships, issues, and performance indicators. The second workshop introduced participants to the range of analysis tools for estimating land use change available for use in the Circ Williston EIS. Participants were asked for their input on the strengths and weaknesses of the analysis approaches, methods that were most appropriate for evaluating land use in Northwest Vermont, and ways in which the tools may be combined to conduct the evaluation. The third workshop reviewed the consultant team's approach for developing the baseline demographic, economic, and land use inputs for the travel demand and land use modeling. The full agenda for the workshop is attached as Appendix B.

The workshop was opened with an introduction by Rich Ranaldo, project manager for the Agency of Transportation who outlined the objectives of the workshop and suggestions on how participants could work together with the presenters to ensure proper recording of comments during the session.

The workshop continued with a slide presentation given by Larry Pesesky, project manager for the consultant team and Al Racciatti. The presentation outlined the steps taken to date in the ICI evaluation, and summarized the purpose and content of the previous workshops. The presentation then reviewed the following:

- Current planning and future land use assumptions in Chittenden County
- Trends observed following the 2000 Census and completion of the existing CCMPO/CCRPC forecast
- Methods used in developing an alternative employment forecast for Chittenden County and surrounding 5 counties in Northwest Vermont and results
- Methods used in developing an alternative population forecast for Chittenden County and surrounding 5 counties in Northwest Vermont and results
- Local land use inputs required for the Chittenden County transportation model and methods for developing inputs
- Land Use Allocation Module of the Chittenden County transportation model and how it will be used in the ICI analysis.
- Next steps and topics for future ICI workshops.

Slides presented during the workshop are included for reference in Appendix C.

Comments/Questions Received During Presentation

Workshop attendees were asked to provide questions or comments at any time during the presentation. This section summarizes the questions, comments, and responses by the consultant team.

County Level Employment and Population Forecasts

- Has the consultant team developed case studies of population or employment growth in areas of similar size and general profile as Chittenden County? This could be helpful in putting results into context.

Response: Case studies have not been prepared. We agree that it may be a useful technique—difficult to find comparable locations for comparison.

- Migration patterns shown seem to correlate strongly with major employment actions at IBM.
- Grand Isle in the future will likely produce many additional commuters to Chittenden County but little employment of its own.
- It appears that the population-to-employment ratio in the forecast falls to 1.1 percent in Chittenden by 2025. Is that correct?

Response: Yes. The relationship of population to employment and how that has changed over time was an important indicator in evaluating forecast results.

- How do the indicators of employment and population growth, population-to-employment, and others here compare to national average? How much is our local economy tracking the national economy? Look at national/regional comparisons to put into context.

Response: Benchmarking against national and state forecasts would be a helpful addition to the study.

- This looks like a reasonable approach for a baseline forecast and the existing forecast looks like it represents a high growth scenario. A low-growth scenario should be added.

Response: The key step in developing a low-growth scenario would be establishing the basis for the assumption.

- The best basis for a low-growth scenario would be assumption of flat share of regional total or growth rate would be most appropriate for low-growth scenario. May want to capture risk of what would happen if major employer such as IBM were to leave? Would transportation investment requiring millions of dollars be required?

Response: One goal of the Circ-Williston EIS is to ensure that decision-makers have the information they need.

- Rather than full-blown scenarios for high or low-growth possibilities, short cut sensitivity testing would serve to indicate if major changes in transportation demand or land use would result from changes in the forecast assumptions.
- Study should address affects of aging population

Response: There is a small but emerging literature on travel patterns of aging population—may be difficult to incorporate in quantitative model. Travel model does cover non-work related trips.

- How have telecommuting and second home purchases affected vehicle miles traveled?

Response: The transportation model does cover non-work related trips—no specific element to assess telecommuting or trips generated by second-homes.

Local Area Land Use Inputs

- Build-out capacity reflects what is possible under zoning given other constraints—what else is considered? In addition to looking at build-out capacities, the analyses should look at market factors.

Response: Build out evaluation considers sewer service areas, soil suitability for on-site septic disposal, buffers around surface waters and wetlands; and conserved lands and open space. The LUAM will use these factors to allocate county totals to local areas. Habitats other environmental constraints not considered in build-out but will be part of impact analysis.

- Are steep-slopes considered?

Response: Slopes are considered in the state rating of soil suitability for septic.

- What about changes in technology that would allow for septic disposal in areas where soils are poor?

Response: We've tested the sensitivity of our findings to changes in the density assumed for the soil suitability ratings: a 10 percent change in achievable densities in these areas would result in a 1 percent change in density overall in the county.

- Look at Colchester shoreline—change in what can be developed—this regulatory framework likely to migrate down shoreline to other towns.
- Should report findings of LUAM not just in terms of household allocation but underlying change in travel times (composite impedances). Household numbers alone can mask underlying change in accessibility which is important.

Response: What would be the most effective way to present results? Percentage change or travel times?

- Either percentage change in travel time or travel time itself would be useful to report.
- How is time element in considering projects to relieve capacity and effect on land use?

Response: In allocating households the LUAM not only considers how changes in the travel network relieving congestion would affect housing/employment location but also looks at how increases in congestion may affect location choice.

- How do assumptions on no build projects relate to TIP? Is MTP [CCMPO 2025 Metropolitan Transportation Plan] fiscally constrained? It must incorporate consideration of feasibility.

Response: MTP must be fiscally constrained to receive certification from Federal Highway Administration.

Discussion Question: What are the key factors that influence why households and employers locate where they do?

The consultant team posed a question to attendees and collected responses on flip-charts. The responses to the question posed are as follows.

- Accessibility to employment - People choose to locate housing near work
- Transportation infrastructure is important to firms: businesses now focuses on time-to-market requirements
- Demographics are important to consider— where population is in life cycle— determines need for housing and budget for housing cost
- Planned infrastructure hasn't caught up with existing development so that may direct development elsewhere
- Available, affordable land
- Extended family
- Quality of schools
- Recreational/social activities
- Taxes play a role in where people decide to locate--some towns in a cycle of development activity that increased need for services and taxes
- Different considerations for those from out of state and out of county (students, immigrants, etc.) seeking to move in—may have different preferences for housing in terms of location and density, particularly for those that do not own or choose to not own cars.
- Transit access for zero car households
- International airport important for business location

- Limitations in telecommunications infrastructure—critical mass needed for state-of-the-art service, may limit ability to attract firms
- University a draw for residents and businesses
- High-tech related to university work, educated labor force, existing base of firms
- Medical Centers
- Availability of power and water supply
- Sewer capacity is probably most important indicator for development
- Rail Capacity for industry
- Zoning and land use regulations

Traffic studies required by Act 250 limit employment growth and location—planned center areas may be zoned for commercial development but failing conditions in traffic studies will mean business will locate elsewhere or opportunity will be lost

Next Steps

Before adjourning, consultant team advised participants that the next workshop would review the initial findings of the ICI analysis (early May) and that a fifth workshop would review strategies for addressing ICIs (mid-June). Participants advised that they would be notified in advance of specific times and locations of future workshops.

Appendix A: List of Attendees

<u>Name</u>	<u>Affiliation or Town of Residence</u>
Michael Adams	Army Corps of Engineers
Gina Campoli	Agency of Transportation
Eleni Churchill	Agency of Transportation
Virginia Clark	Richmond
Mike Coates	Williston
Harry Columbo	Dubois & King, Inc.
George Gereeke	Williston
Cathy LaRose	South Burlington Planning Department
Marty LeFebvre	Army Corps of Engineers
Sam Mathews	South Burlington
Julie Moore	Agency of Natural Resources
Todd Odit	Essex Junction
Michael Oman	Underhill
Julie Potter	CCRPC
Rich Ranaldo	Agency of Transportation
David Roberts	CCMPO
Ken Robie	Agency of Transportation
Charles Safford	Essex Junction
Judy Sassorossi	Williston
Rob Sikora	Federal Highway Administration
Brian Smith	Federal Highway Administration
Marilyn Sowles	Colchester
David Spitz	Essex Junction
Lea Terhune	Burlington

Facilitators/Consultant Team

<u>Name</u>	<u>Affiliation</u>
Larry Pesesky	The Louis Berger Group, Inc.
Al Racciatti	The Louis Berger Group, Inc.
Patrick Duffy	The Louis Berger Group, Inc.

Appendix B: Workshop Agenda

Circ-Williston Transportation Project Environmental Impact Statement

Indirect and Cumulative Impact Workshop 3

Meeting Purpose:	The purpose of this technical workshop is to provide interested persons with information about indirect and cumulative impacts analysis and to develop information and input for the analysis from the participants. This workshop will review activities to date and the baseline demographic and economic assumptions for travel demand and land use analysis.
Date:	March 9, 2006
Location:	Champlain Valley Expo
Time:	4:30 p.m. – 6:30 p.m.

4:30 to 4:45 p.m.	<p>Overview</p> <ul style="list-style-type: none"> • Objectives • Eight-Step Analysis Framework <ul style="list-style-type: none"> ○ Study Areas ○ Direction, Goals and Notable Features ○ Impact Causing Activities, ICIs for analysis • Previous Workshops <ul style="list-style-type: none"> ○ ICI Issues and Notable Features ○ ICI Methods
4:45 to 5:30 p.m.	<p>County/Regional Demographic and Employment Estimates</p> <ul style="list-style-type: none"> • Current Planning Assumptions • Why are projections necessary? • Existing Forecasts and Recent Trends • Employment Forecast • Population Projection • Reasonableness of Assumptions • <i>Discussion Question:</i> What do these new estimates mean for planning, land use, and transportation in Chittenden County?
5:30 to 5:40 p.m.	Break
5:40 to 6:20 p.m.	<p>Baseline Land Use Assumptions</p> <ul style="list-style-type: none"> • <i>Discussion Question:</i> What are the key factors that influence why households and employers locate where they do? • Build-out Assessment • Existing/Planned Development • Land Use Allocation Module • Reasonableness of Assumptions
6:20 to 6:30 p.m.	<p>Recap and Next Steps</p> <ul style="list-style-type: none"> • Overview • Next Steps in ICI Assessment • Next Workshops

Appendix C: Slide Presentation

The slide presentation follows this page.

Circ-Williston EIS

Indirect and Cumulative Impact Assessment

Workshop No. 3 – Future Population, Employment & Land Use



Vermont Agency of Transportation



Federal Highway Administration

March 9, 2006

Objectives

- Review what work has been done
- Discuss where the assessment is now
- Describe what additional work needs to be done

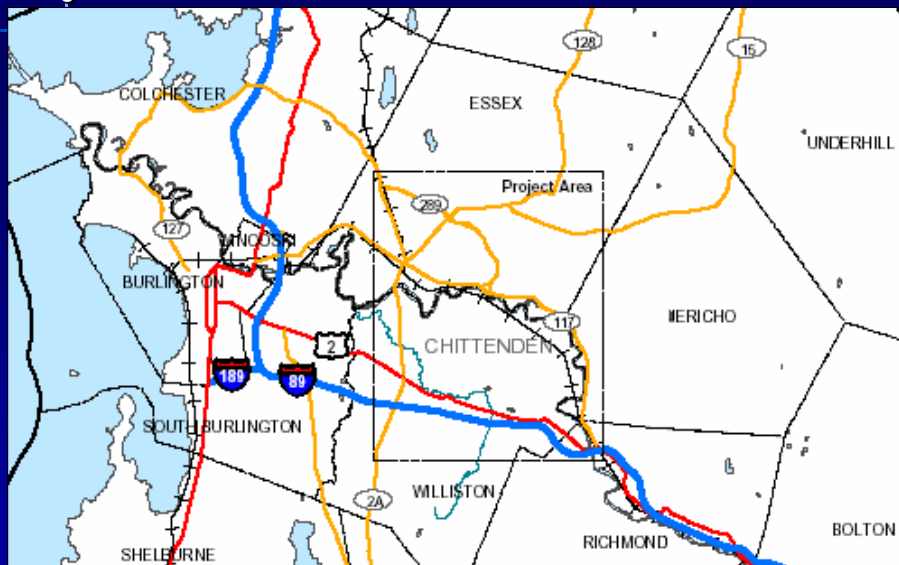
ICI Workshop 3 - Slide 2

Eight-Step ICI Analysis Framework

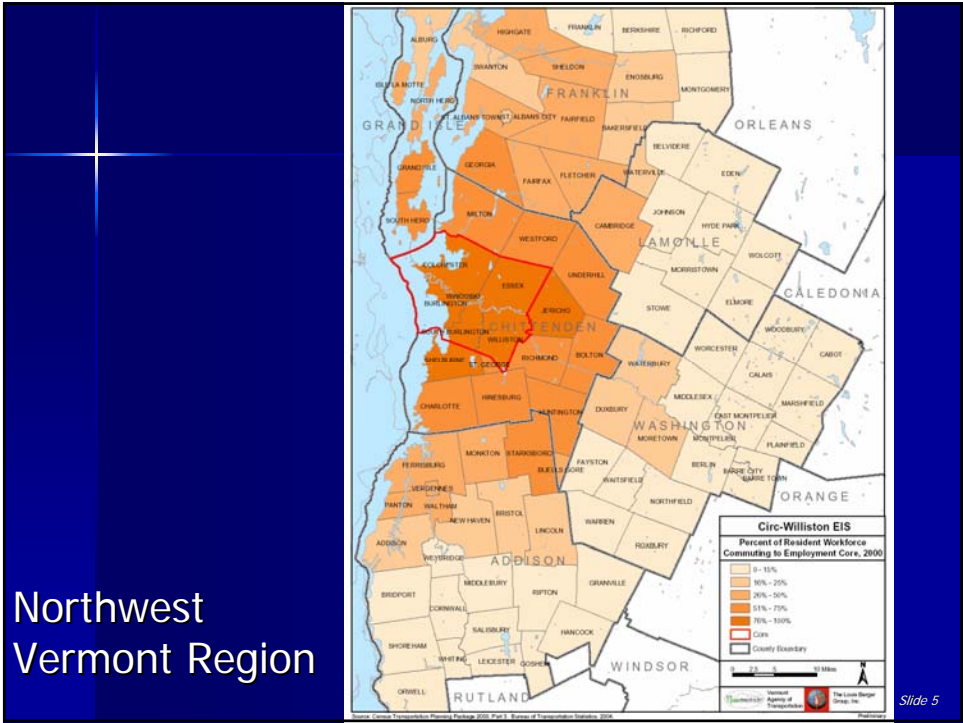
- Step 1 - Set Study Area Boundary
- Step 2 - Identify Study Area Direction and Goals
- Step 3 - Inventory Notable Features
- Step 4 - Identify Impact-Causing Activities
- Step 5 - Identify ICIs for Detailed Analysis
- Step 6 - Analyze ICIs
- Step 7 - Evaluate Analysis Results
- Step 8 - Assess Consequences and Develop Mitigation

ICI Workshop 3 - Slide 3

Project Area



ICI Workshop 3 - Slide 4



How many people will live and work in Chittenden and nearby counties should there be no Circ-Williston project?

ICI Workshop 3 - Slide 6

Current Planning Assumptions

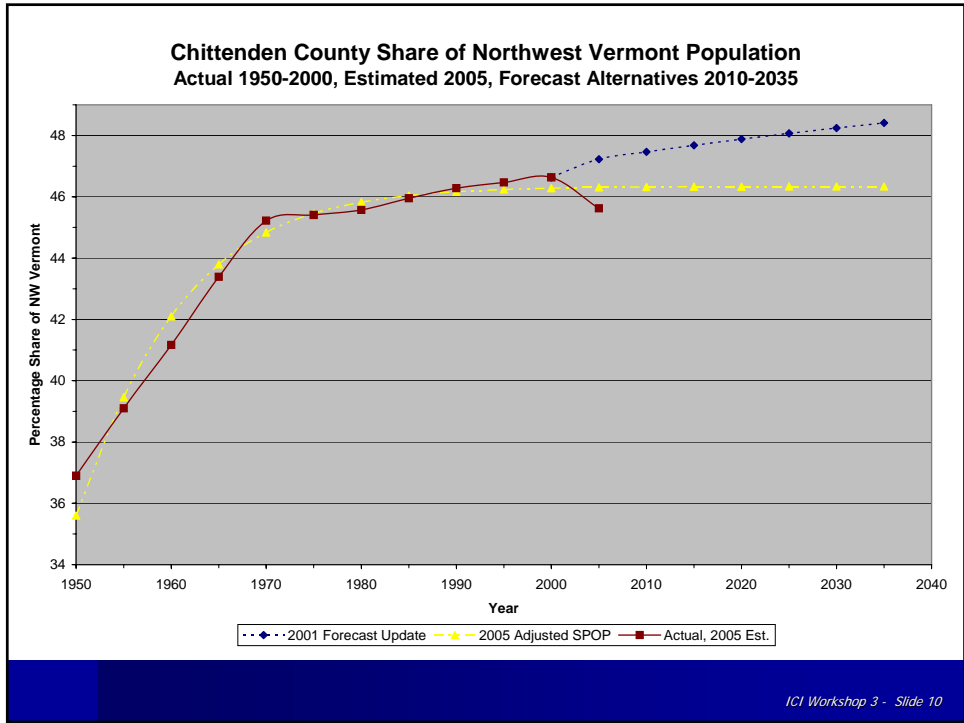
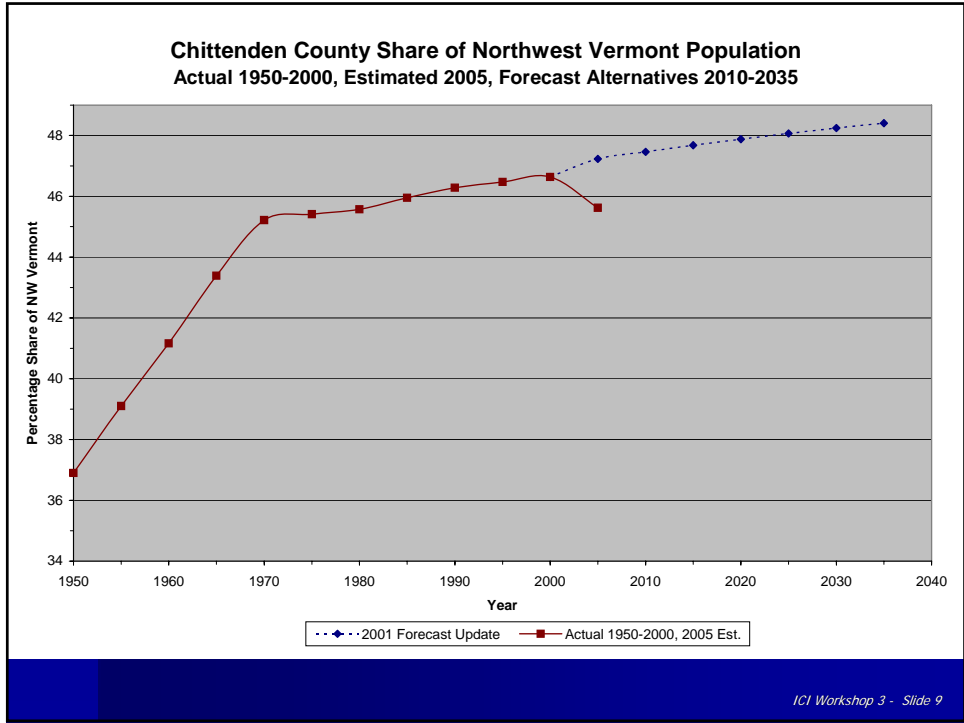
- Forecast of Chittenden County population, households, and employment developed for CCRPC/CCMPO in 2000, updated in 2001
- 2001 Chittenden County Regional Plan
- 2025 Chittenden County Metropolitan Transportation Plan (MTP), 2005

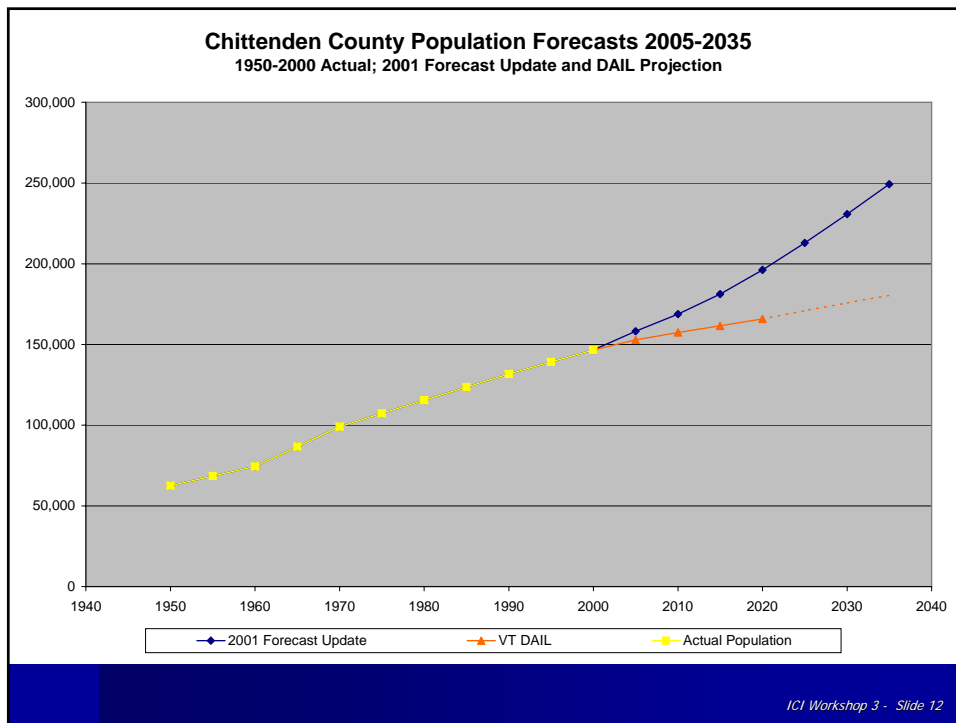
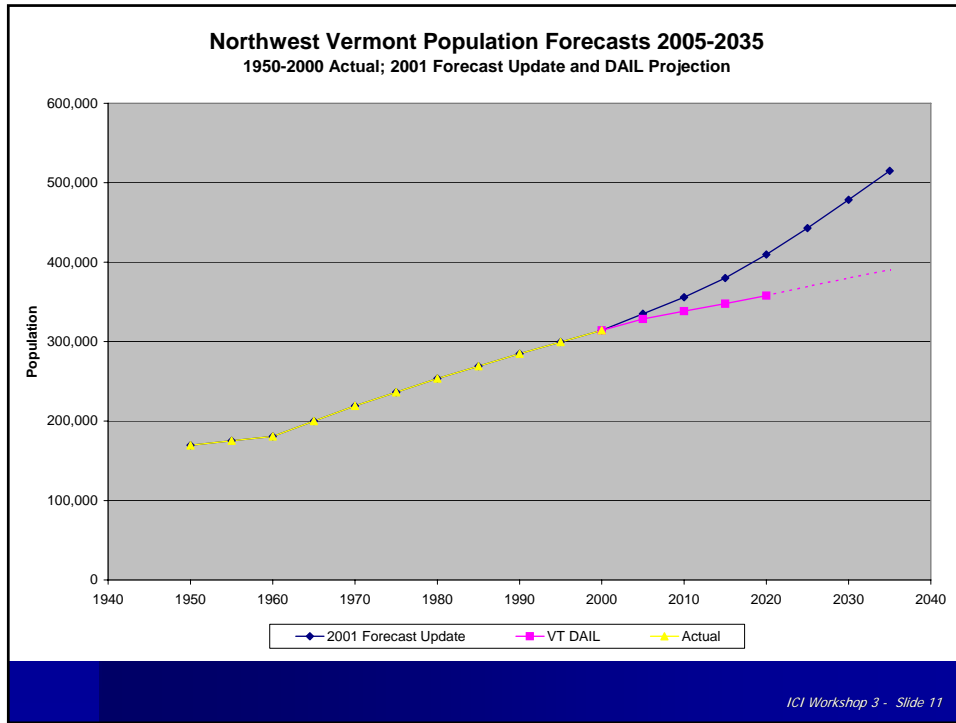
ICI Workshop 3 - Slide 7

Why are projections necessary?

- Established forecasts are several years old—update is possible to 2005 with local and Census Bureau data
- Updated data suggests departure from long-term trends
- Alternative projections suggest lower overall rates of population and employment growth
- Projections are key component in transportation and land use modeling

ICI Workshop 3 - Slide 8



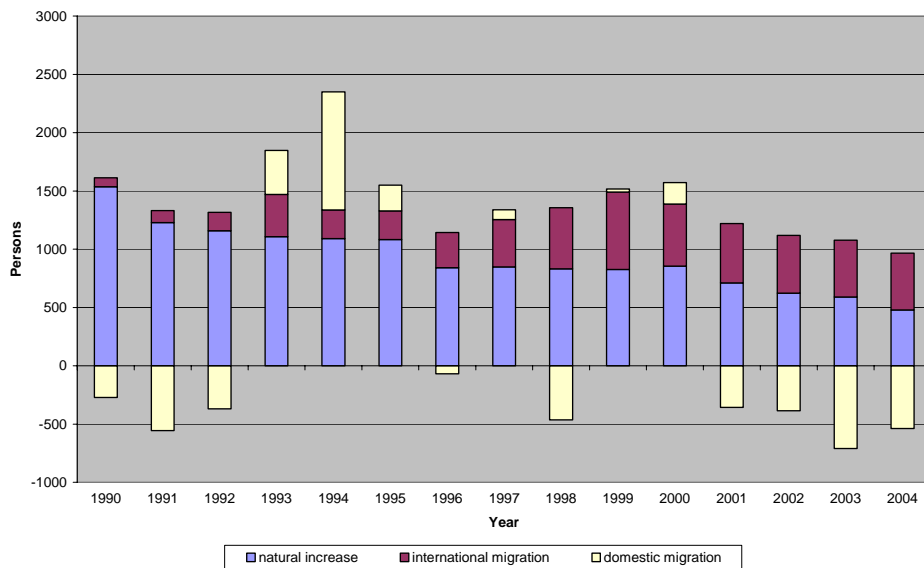


Closer Examination of Recent Trends

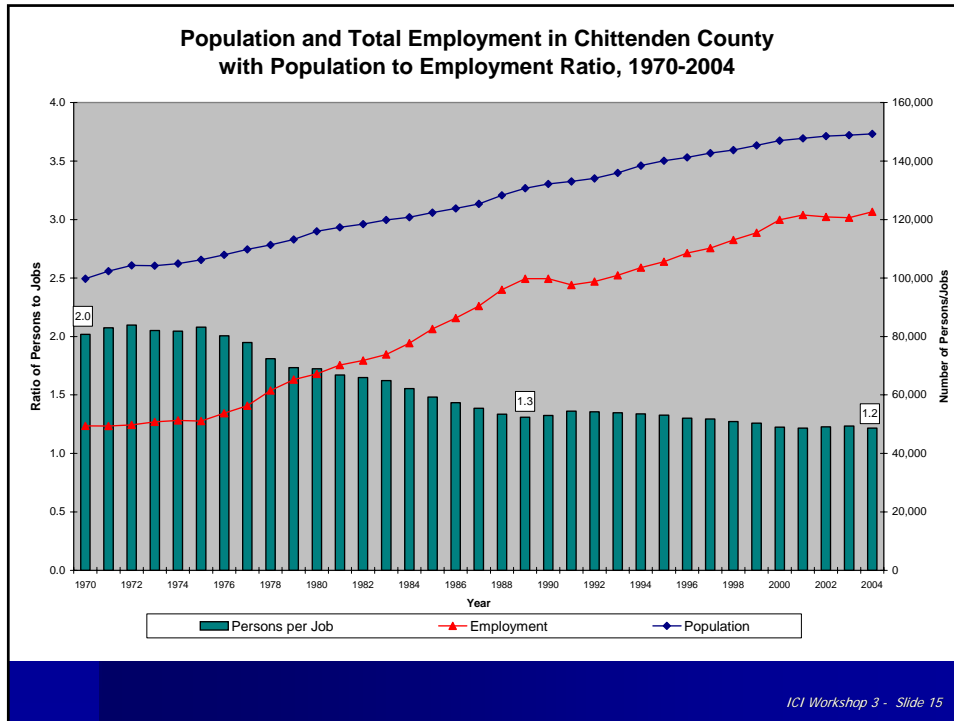
- Decline in natural increase (births-deaths)
- Recent increase in out-migration to other parts of US
- Steady in-migration from abroad
- Link between migration and employment demand

ICI Workshop 3 - Slide 13

Components of Population Change in Chittenden County, 1990-2004



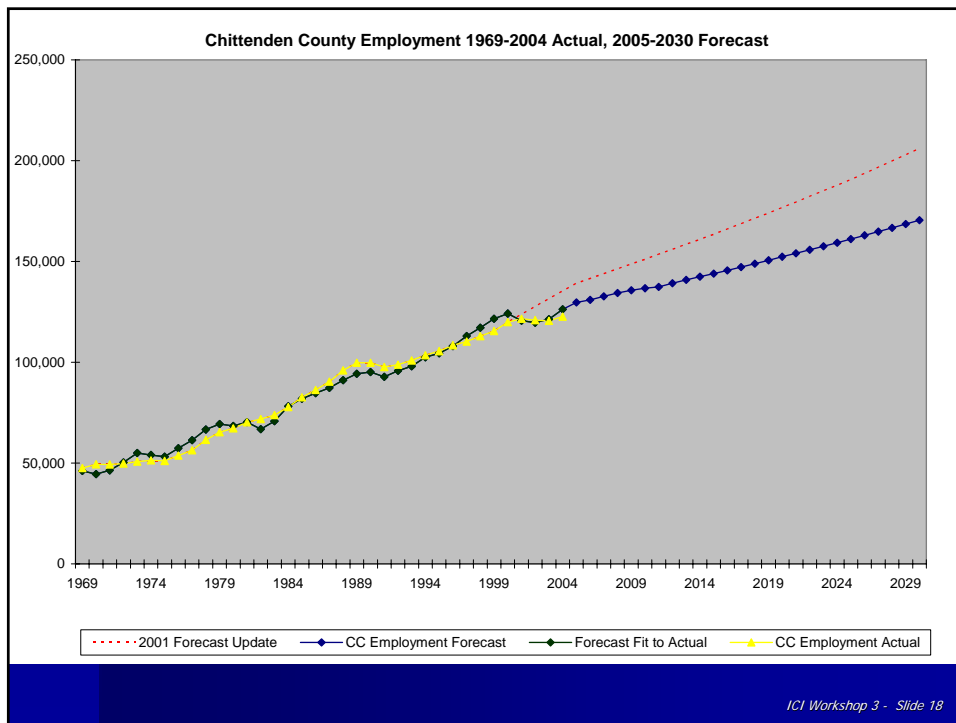
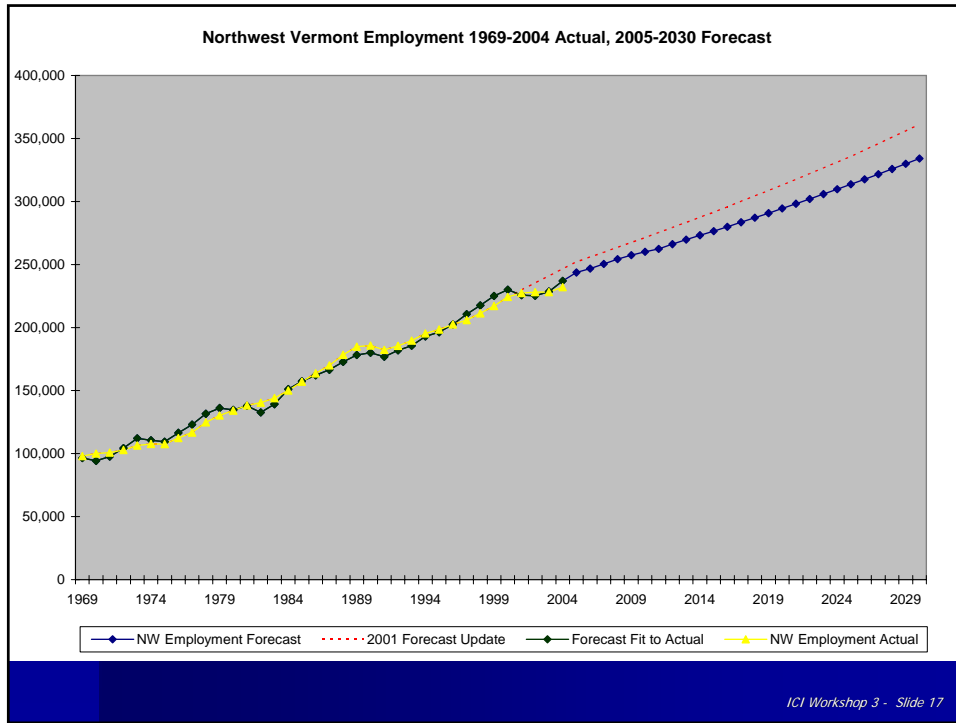
ICI Workshop 3 - Slide 14



Employment Forecast

- Historic relationship between employment and national economic indicators: GDP and productivity (1970-2004)
- Future regional employment linked to national GDP and productivity forecasts (Congressional Budget Office)
- Forecasts produced for each county and Northwest Vermont Region

ICI Workshop 3 - Slide 16



Findings

- Chittenden County employment to reach 163,000 by 2025, an increase of over 40,000 jobs or 1.2% per year
- Job growth will be slower than 1970-2000 period (growth of 3.0% per year)
- Share of Northwest Vermont regional employment will decline slightly from 53.5% to 52.0%
- Surrounding counties will also see slower growth rates than past but slightly higher than Chittenden—overall NW VT average 1.4% per year

ICI Workshop 3 - Slide 19

Circ-Williston EIS							
Chittenden County Employment Forecast, 2000-2025							
Comparison to other available sources							
	2000	2005	2010	2015	2020	2025	CAA
Circ-Williston Forecast	124,203	129,791	137,465	145,116	153,809	163,000	1.1%
2001 Forecast Update	124,203	139,205	151,112	163,466	176,676	190,583	1.7%
VT Dept. of Labor Growth Rate*	124,203	132,276	140,874	-	-	-	1.3%
Woods & Poole	119,519	125,691	133,672	141,658	149,640	157,621	1.1%
2001 Forecast Update commissioned by CCMPO/CCRPC, 2001							
*Dept. of Labor Growth Rate = Annual growth rate from 2002-2012 Occupational Employment Projections, Burlington Area							
Woods & Poole = Woods & Poole, Inc., 2005							
CAA = Compound Average Annual Growth Rate							
Source: The Louis Berger Group, Inc., 2006							

ICI Workshop 3 - Slide 20

Population Projection

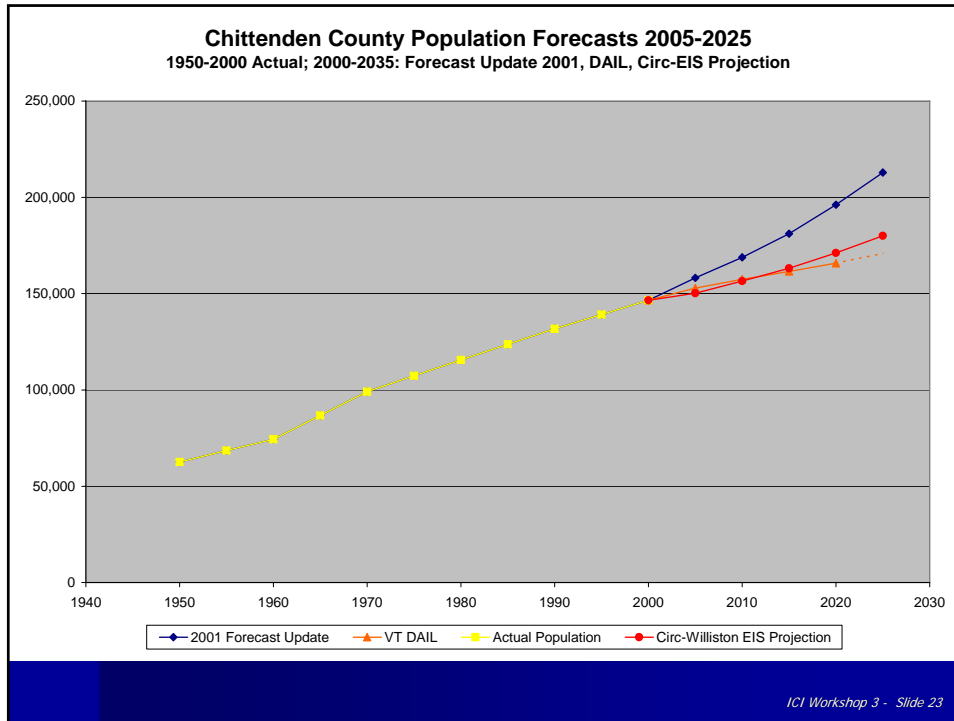
- Estimation of natural increase based on vital statistics (birth and death rates)
 - Data from Vermont Department of Health
 - Census Bureau outlook on change in vital statistics

ICI Workshop 3 - Slide 21

Population Projection

- Estimation of net migration based on labor force demand (from employment forecast)
 - Consideration of natural increase, labor force participation, unemployment, commuting and dual job holding
 - Data from Vermont Department of Labor and Census Bureau

ICI Workshop 3 - Slide 22



Findings

- Chittenden County population to reach 180,000 by 2025, an increase of over 30,000 persons or 0.8% per year
- Population growth will be slower than 1950-2000 period (growth of 1.7% per year)
- Share of Northwest Vermont regional population to stay steady at 45% - 46%
- Surrounding counties will also see slower growth rates than past—overall NW VT average 0.8% per year with Grand Isle, Lamoille, and Franklin counties growing slightly faster than Chittenden

ICI Workshop 3 - Slide 24

Circ-Williston EIS					
Chittenden County Population Projection, 2000-2025					
Comparison to other available sources					
	2005	2010	2015	2020	2025
Circ-Williston Projection	150,239	156,530	163,168	171,114	180,037
2001 Forecast Update	158,194	168,883	181,134	196,161	212,884
DAIL	152,846	157,471	161,491	165,813	-
Census State Proj.	154,078	160,740	166,684	171,948	176,891
Census County Est.	150,239	-	-	-	-
Woods & Poole	151,550	158,145	165,161	172,484	180,183
2001 Forecast Update commissioned by CCMPO/CCRPC, 2001					
DAIL = VT Dept of Aging and Independent Living Projection, 2003					
Census State Proj. = Census Bureau Projection for VT, county share from DAIL, 2001					
Census County Est. = Census Bureau Estimate for 2000-2004 extrapolated to 2005					
Woods & Poole = Woods & Poole, Inc., 2005					
Source: The Louis Berger Group, Inc., 2006					

ICI Workshop 3 - Slide 25

Reasonableness of Assumptions

- Margin of error of $\pm 10\%$
- Especially difficult to forecast during downturns and breaks in trends
- *Goals:* Best available data at time of analysis, thorough examination of other sources, standard base for comparative evaluation of alternatives

ICI Workshop 3 - Slide 26

Question:

What do these new future population and employment estimates mean for planning, land use, and transportation in Chittenden County?

ICI Workshop 3 - Slide 27

Break

ICI Workshop 3 - Slide 28

Where will people live and work in Chittenden and nearby counties should there be no Circ-Williston project?

ICI Workshop 3 - Slide 29

Question:

What are the key factors that influence why households and employers locate where they do?

ICI Workshop 3 - Slide 30

Key Steps for Baseline Evaluation

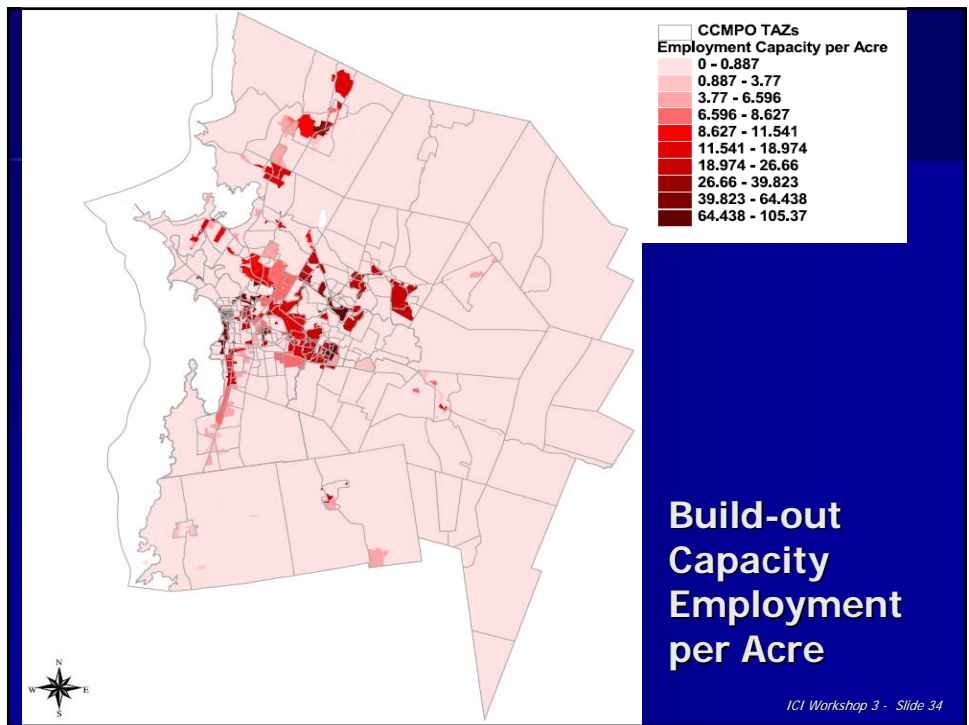
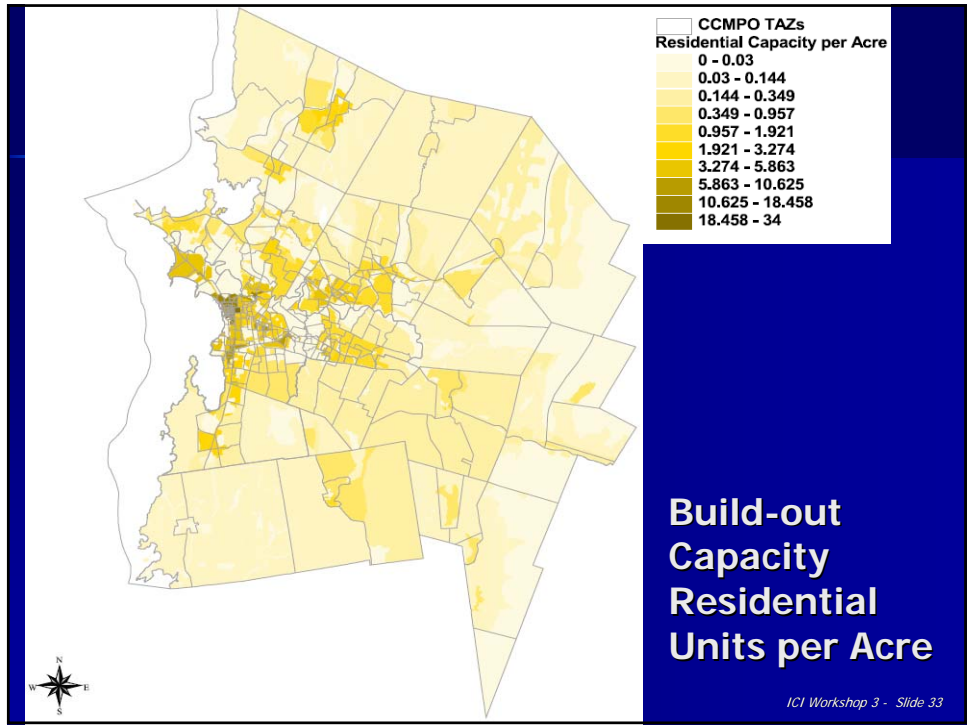
- Build-out Assessment – How much capacity is there for development? Where is the capacity located?
- Existing/Planned Development – Location and type of existing development and known plans for the future
- Growth Allocation – Where will the development occur in the No-Action conditions (future without the project)?

ICI Workshop 3 - Slide 31

Build-out Assessment

- Town Zoning (current as of 2005)
- Surface Waters and Wetlands
- Conserved Land and Open Space
- Sewer Service Areas
- Soil Suitability for Septic

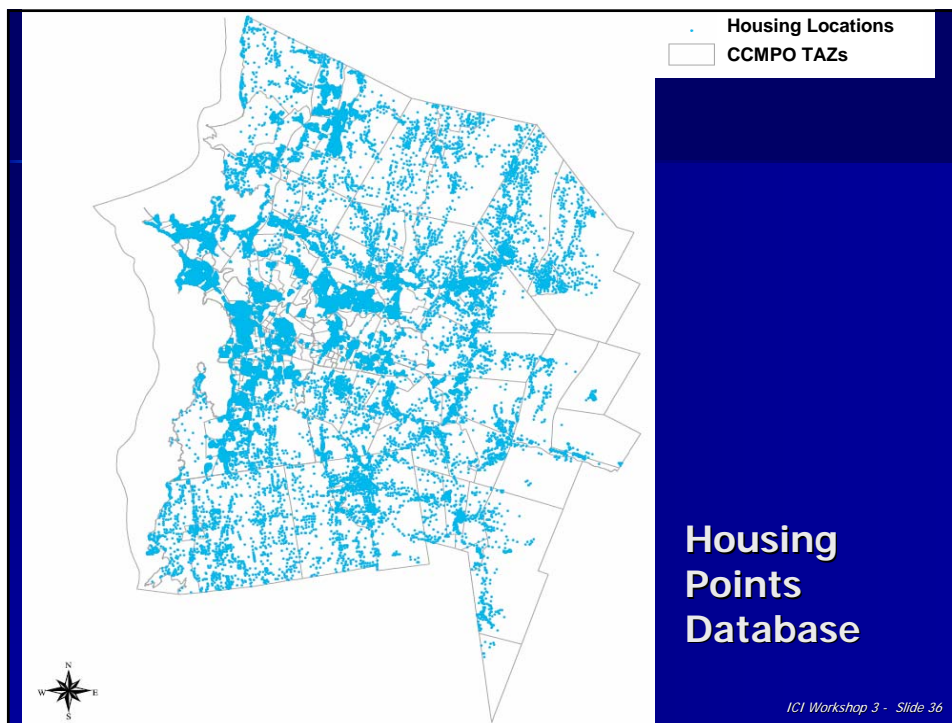
ICI Workshop 3 - Slide 32



Existing/Planned Development

- CCRPC Housing Points Database
- State E911 database
- Commercial database
- Town data

ICI Workshop 3 - Slide 35



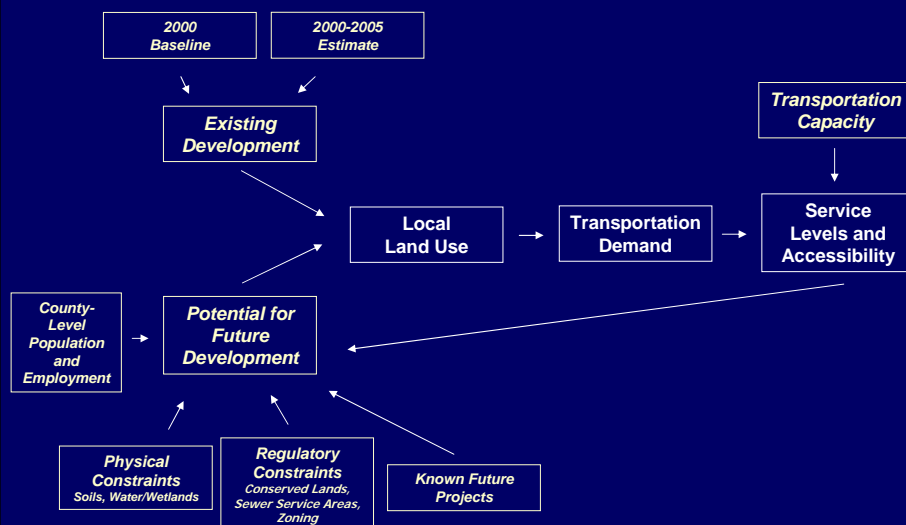
ICI Workshop 3 - Slide 36

Land Use Allocation Module

- Element of the Chittenden County Transportation Model
- Allocates county households and employment based on accessibility and development capacity
- 5-years steps, feedback with changes in transportation model
- Calibrated to past activity
- Used in prior evaluations and studies

ICI Workshop 3 - Slide 37

LUAM Process



Adapted from CCMPD Regional Transportation Model Documentation, 2006

Reasonableness of Assumptions

- Difficulty in predicting individual decisions
- *Goals:* Best available data at time of analysis, account for change in accessibility, standard base for comparative evaluation of alternatives
- Addresses both indirect and cumulative

ICI Workshop 3 - Slide 39

Overview

- Beginning Step 6 in the 8-step ICI assessment framework
- Conducted thorough review of available sources and established reasonable assumptions for future population and employment
- Distribution of population and employment growth based on existing county model
- Model inputs based on latest available data

ICI Workshop 3 - Slide 40

Next Steps in ICI Assessment

- Identify transportation-land use effects of project alternatives combined with land use effects of other actions (local and regional)
- Assess environmental consequences of the land development effects of the project and other actions
- Coordinate with affected communities on planning strategies to address the effects

ICI Workshop 3 - Slide 41

Next Workshops

- Workshop 4
 - Preliminary Results of ICI Assessment (Steps 6 and 7)
- Workshop 5
 - Planning Strategies (Step 8)

ICI Workshop 3 - Slide 42