NH 120 Claremont- Lebanon/Hanover Transit Planning Services

Project Advisory Committee Meeting

March 9, 2011

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Meeting Agenda

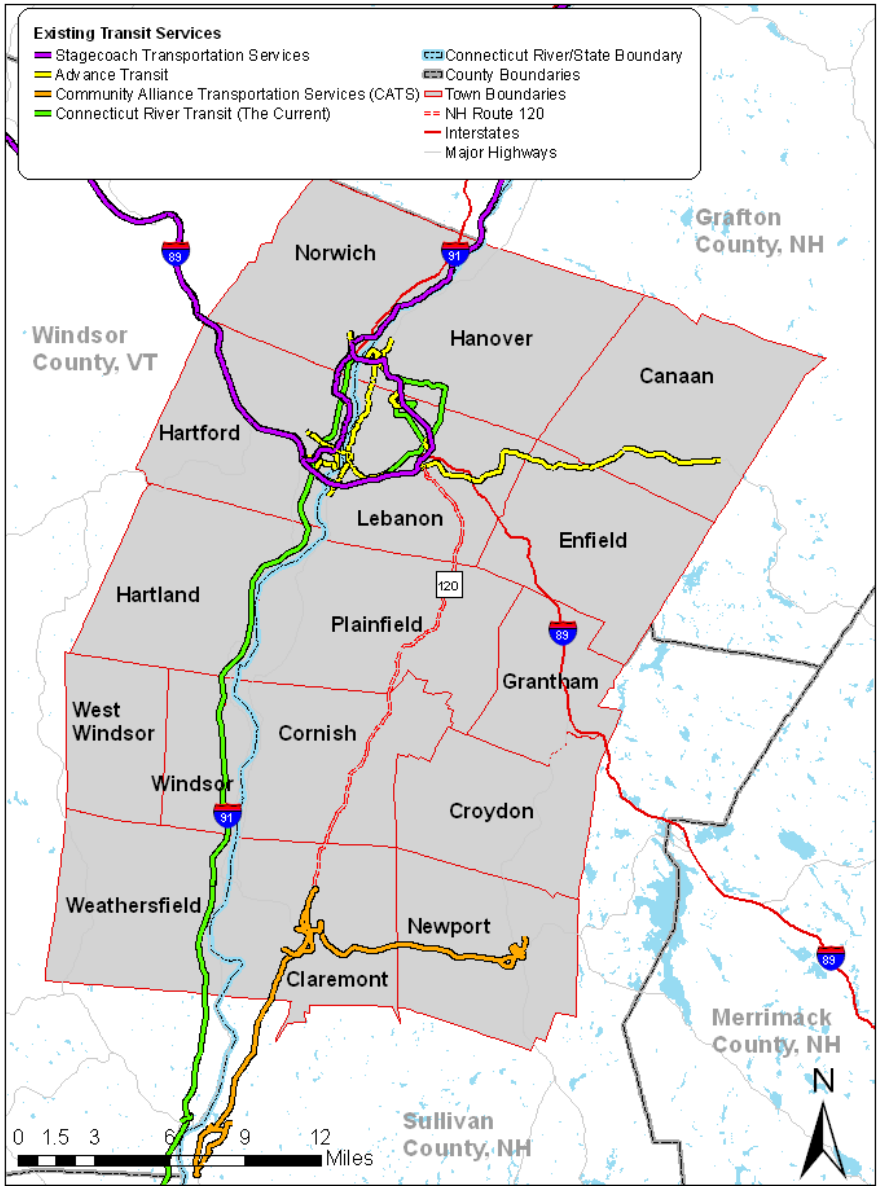
- Update on Study Progress
- Presentation of Findings to Date
- Discussion and Brainstorming
  - Transit Service Design Options
  - Trade-offs, Preferences and Priorities
- Next Steps

Study Process

- Existing Conditions and Market Analysis
  - Review Existing Plans
  - Demographic Analysis
  - Regional Development Patterns
  - Survey Corridor Employers and Employees
  - Stakeholder Interviews
- Develop and Refine Transit Service Concepts
- Develop Plan for Preferred Alternative

Review Previous Studies and Plans

- Reviewed 10 existing plans
- Plans suggest:
  - Continued growth along NH 120 corridor
    - Includes NH 120 as well as connecting roads
  - Traffic congestion on NH 120
  - Need for transit service:
    - Gap in existing transit service coverage
    - Relatively higher poverty and zero vehicle household rates
    - Employment and medical trips
    - Potential for park and ride lots along corridor



Existing Services

- Claremont – coverage at base of NH 120
  - limited service frequency
- Lebanon/Hanover – regular service
  - most routes have 30 minute service

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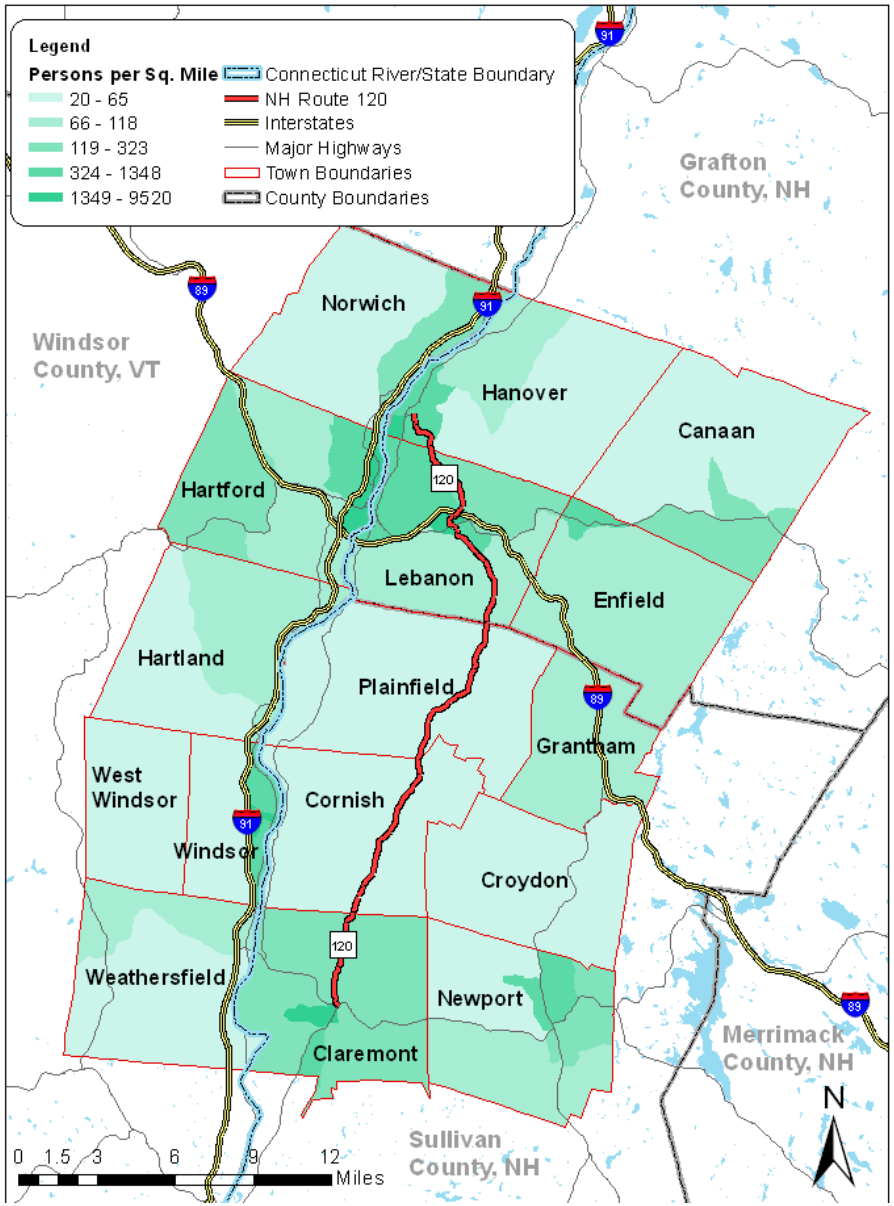

The Big Picture: Corridor Demographics

- 16 town study area
  - Includes VT and NH
- NH 120 Corridor
  - 5 towns (NH only)
- Population centers and higher density at corridor ends
- Steady growth

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Potential Ridership

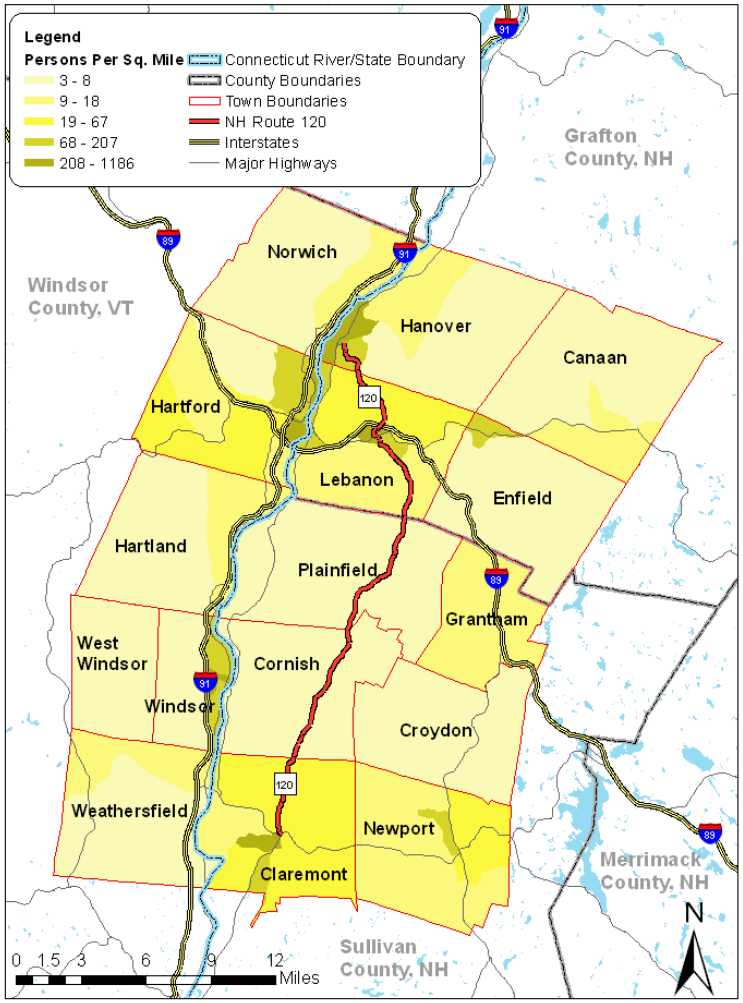
Choice Riders

- Have resources to own and operate private vehicle
- Transit succeeds by:
  - Offering comparable cost and convenience
  - Parking limitations (i.e. DHMC)

Transit Dependent Riders

- Lack resources to own/ maintain private vehicle
  - Older adults
  - Persons with disabilities
  - Persons with low income
  - Zero Vehicle Households

Older Adults (65+)



- Generally mirrors population density
  - Claremont
  - Lebanon
  - Hanover
- NH
  - Newport
  - Enfield
- VT
  - I-91 Corridor

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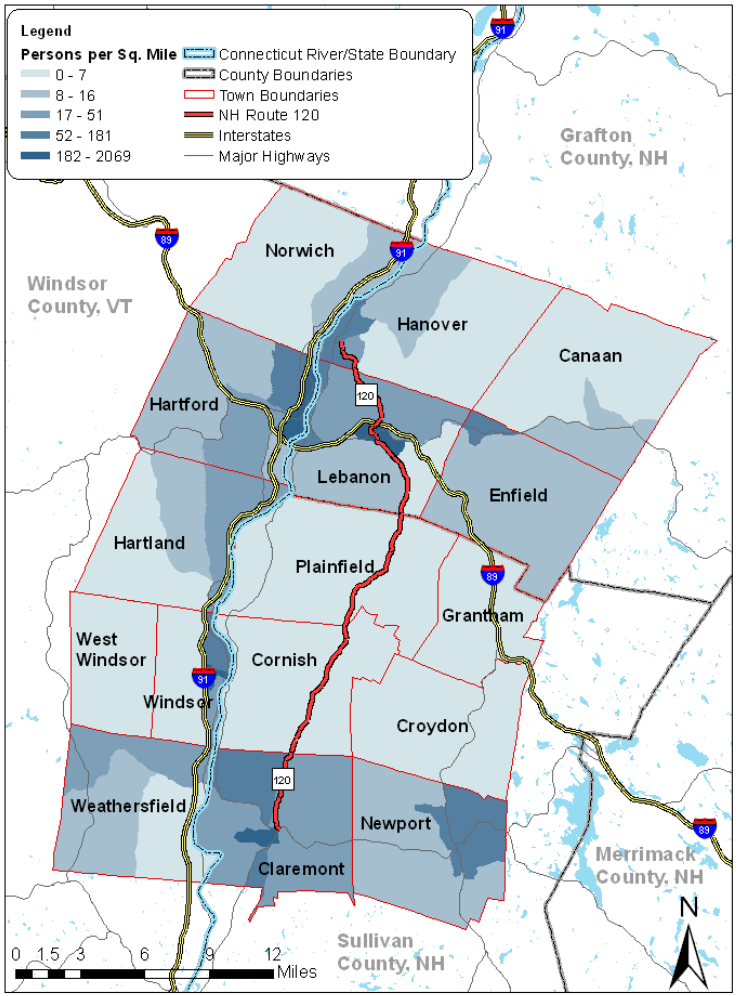
Persons with Disabilities



- Highest Densities
  - Claremont
  - Lebanon
  - Southwestern corner of Hanover
  - Newport
- VT
  - I-91 Corridor

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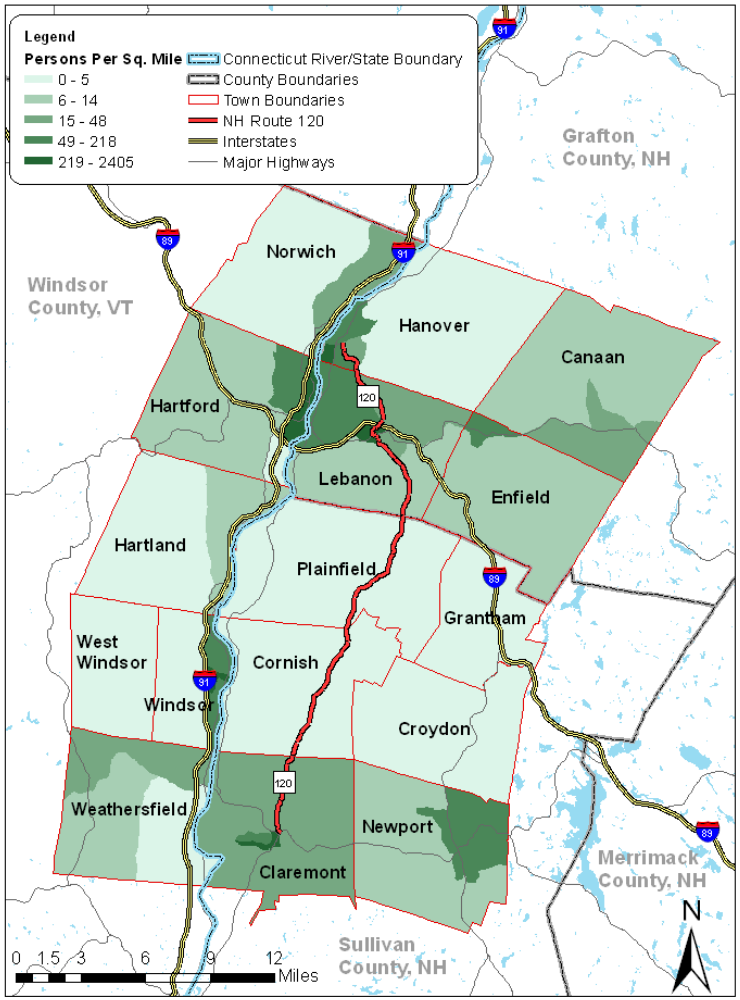
Persons with Low Income



- Median Income = 150% or less of poverty level = $26,195 for family of 4
- NH
  - Lebanon
  - Western Hanover
  - Claremont – base of NH 120
  - Newport
- VT
  - I-91 Corridor, especially in Hartford

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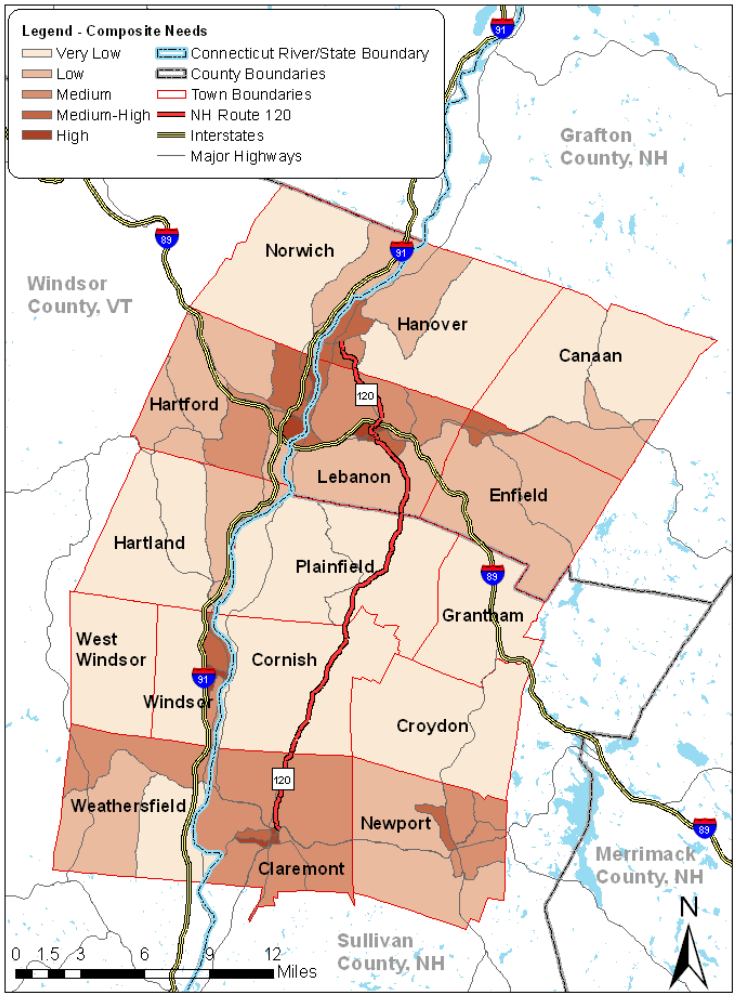
Composite Needs



- Combine populations of need
- NH
  - Claremont
  - Lebanon
  - Parts of Enfield, Hanover and Newport
- VT
  - I-91 Corridor
  - Weathersfield

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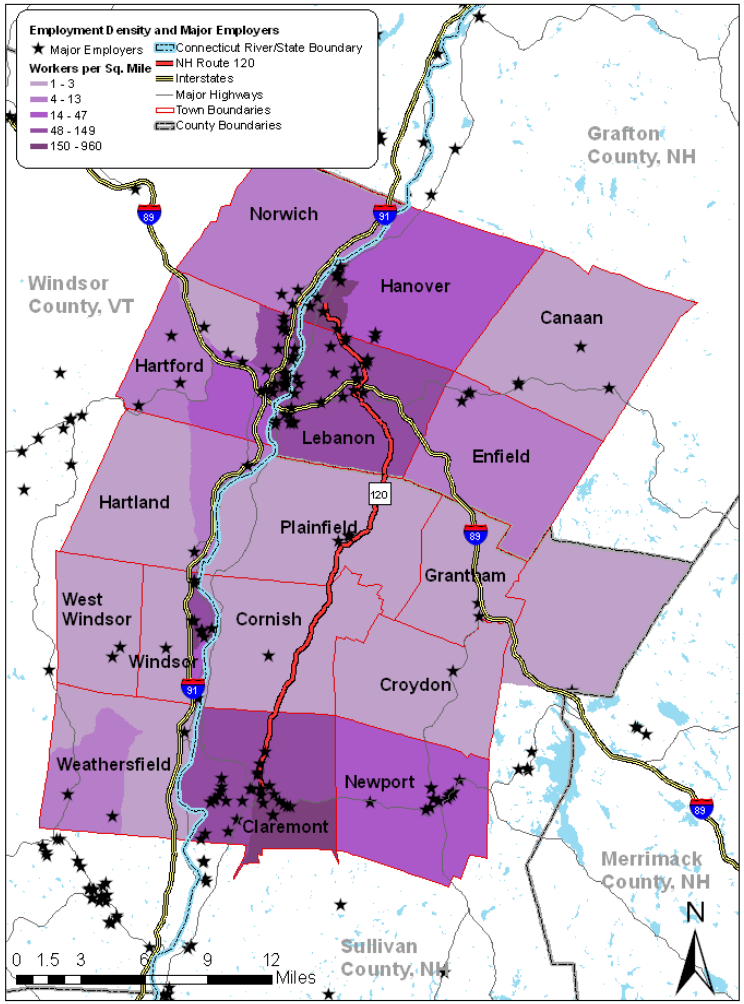
Employment Density and Major Employers



- Claremont
  - Variety of downtown businesses
  - Washington Street stores
  - Niche manufacturing
  - Hospitality
- Lebanon and Hanover
  - Along NH 120
  - I-91/I-89 Interchange
- Newport
- Some employment along NH 120
  - Valley Regional Hospital
  - Elm Wood Nursing Home
  - River Valley Community College
  - Kimball Union Academy

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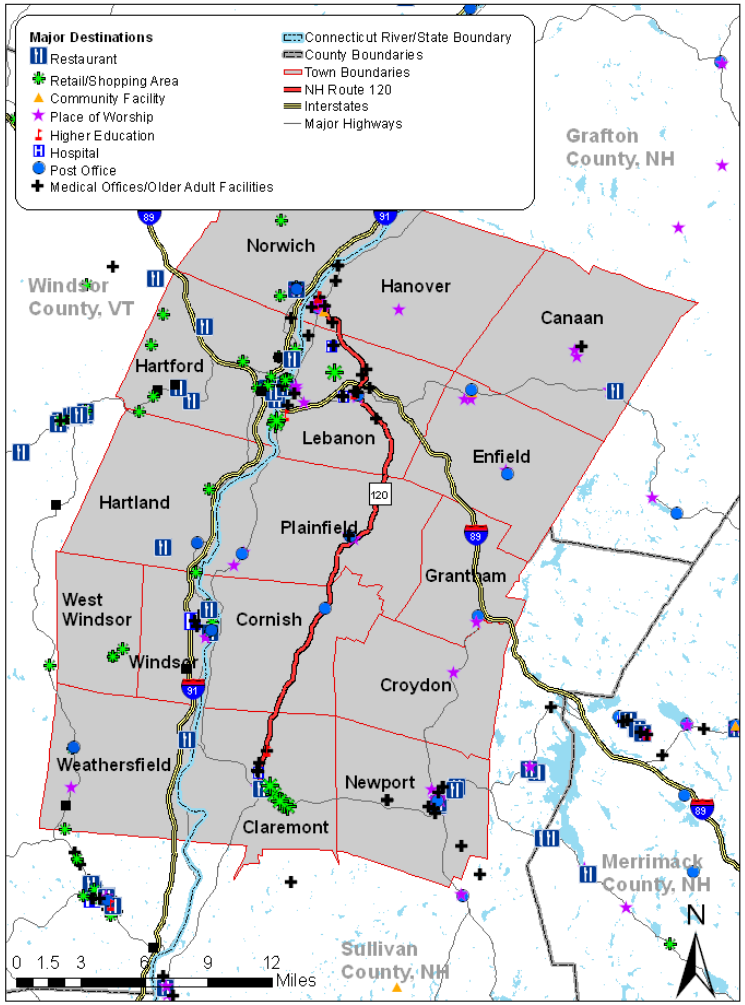
Activity Centers & Destinations



- Shows hospitals, retail centers, community facilities and education
- Clusters around I-91 Corridor
  - Especially interchange with I-89
  - Claremont
  - Newport

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Employer Survey

- Surveyed 10 employers by telephone
  - 6 in Claremont and 4 in Lebanon/Hanover
- Employer Characteristics
  - Range of sizes: 25 – 300 employees
  - Commuting
    - Primarily single occupancy vehicle
  - Some reported employees have hard time getting to work
  - Previous efforts at carpooling
- Prefer demand response over fixed-route
- All would consider financial support

Employee Surveys

- NH 120 Survey
- Smart Commute Survey
  - Upper Valley TMA
    - Included data from Dartmouth Hitchcock Medical Center, Kendal at Hanover and Hypertherm
- Dartmouth College
    - On-campus/downtown employees
    - Off-campus – Centerra and DHMC

Employee Surveys: Results

- Predominantly work at same location every day
- Mostly drive alone to work
  - Transit ridership exceptions:
    - DHMC – 7.5%
    - Dartmouth – 7%
    - Kendal – 6.7%

Employee Surveys: Shift Times

	Start Times	End Times
NH 120 Employees	7:00 am – 7:30 am 8:00 am – 8:30 am	5:00 pm – 5:30 pm
Lebanon/Hanover	7:30 am – 8:30 am	4:30 pm – 5:30 pm
NH 120 Employers	6:30 am – 7:30 am 8:00 am – 8:30 am	3:00 pm– 4:30 pm 5:00 pm – 5:30 pm

Stakeholder Input

- Employment Transportation - Commuters
  - Lebanon/Hanover
    - Served by existing VT commuter services
    - Limited housing, significant employer centers – more people commuting from outside the area
  - Claremont
    - Smaller than northbound, but still significant
- Major Destinations
  - Regional hospitals – commuters and patients
  - Schools – choice population
  - River Valley Community College
- Issues/Concerns
  - Evening travel for later shifts

Stakeholder Input (cont'd.)

Constraints

- Schedule
- Convenience
- Stop Location
- Parking
- Cost
- Awareness

Opportunities

- Arrival time flexibility
- Strong market
- Offers of several park and ride locations
- Funding
  - Potential federal assistance
  - Employer support

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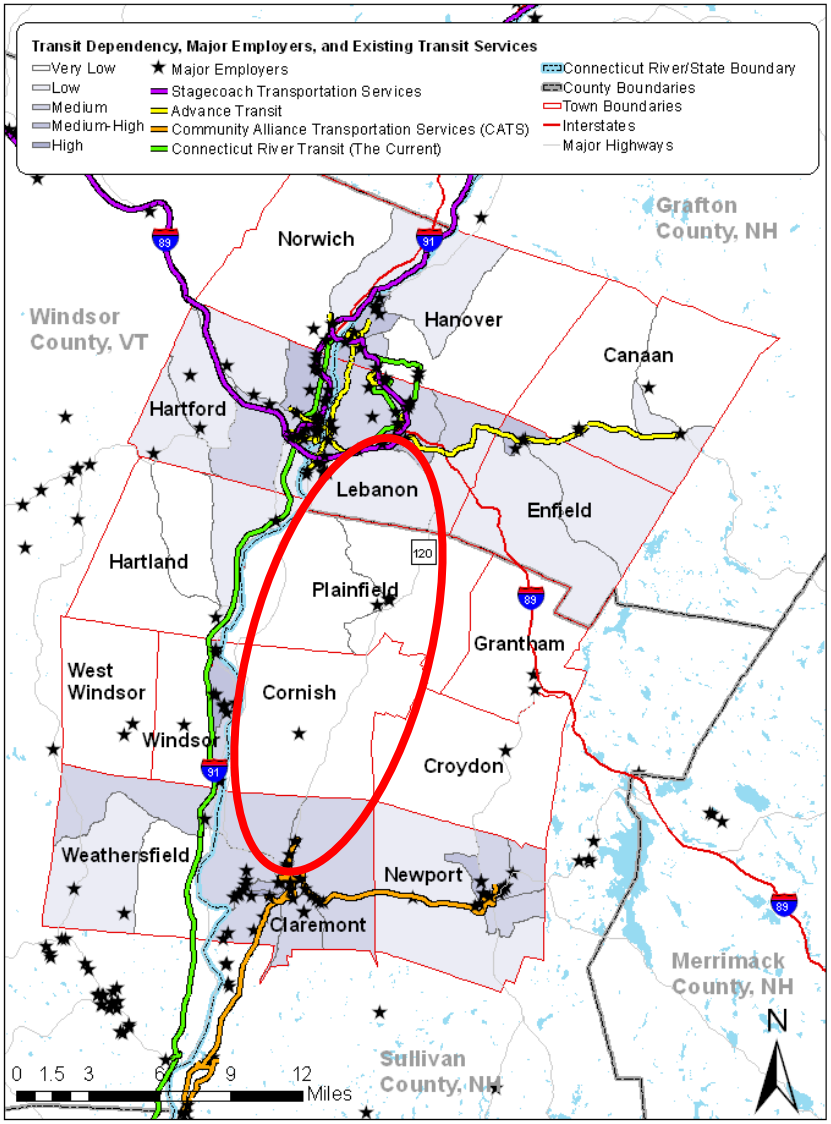

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Opportunities and Challenges

Challenges

- Low density along corridor
  - Dispersed residential areas
  - Dispersed employers
- Different needs/schedules among potential ridership
  - Commuting
  - Medical
  - Shopping
  - Students

Opportunities

- Strong corridor "anchors" in Claremont and Lebanon/Hanover
- Documented need for transit
- Gap in service network
- Potential for different markets
  - Commuters
  - Midday trips
  - Students

Opportunities and Challenges

- Availability of existing services
  - Coordinate rather than duplicate
- Strengthen network
- Need for education/ awareness

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Discussion and Brainstorming

Transit Service Design Trade-Offs

- Operate Service or Provide Connections to Existing Services
  - Connect to existing resources (CATS and AT)
  - Or provide direct connections
- Direct Service v. Door-to-Door Service
  - Direct service is faster and more reliable
  - Fastest service requires longer walks to stops
  - Less accessible to people with disabilities
  - Challenges during winter

Transit Service Design Principles

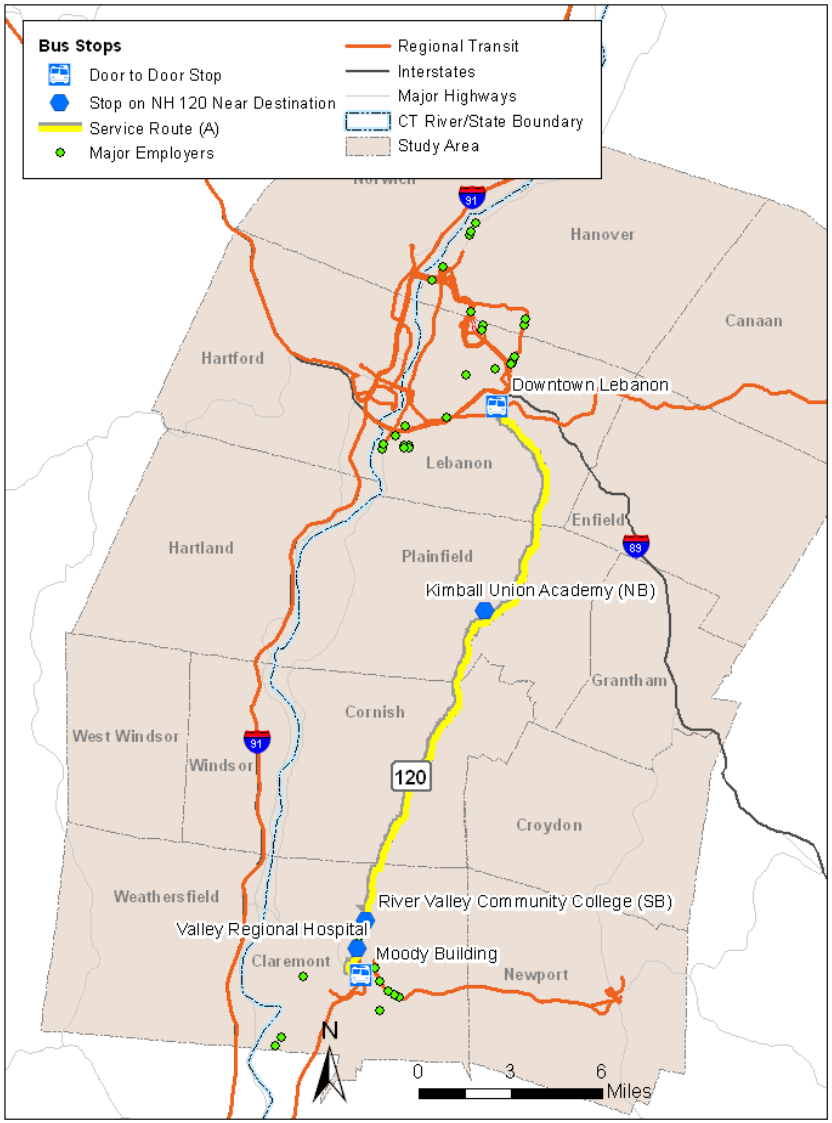
- Service should be as direct as possible.
- Service should operate on major arterials.
- Minimize route variations and deviations.
  - Service should be as consistent as possible.
- Use of clock face headways (for example, bus leaves at 15 and 45 minutes past the hour) to make schedules easy to remember.

Potential Service Alternatives

Assumptions:

$60/Hour Operating Cost

250 Days of Service/Year



Option A: Direct Service

Overview

- Operate between Claremont and Lebanon
  - Serves village centers
  - At least 2 stops each way in corridor
- Connect to CATS and AT for local connection

Strengths/Weaknesses

- Strengthens existing network and coordinates service
- More cost effective
- Increases travel times
- Less effective for choice riders

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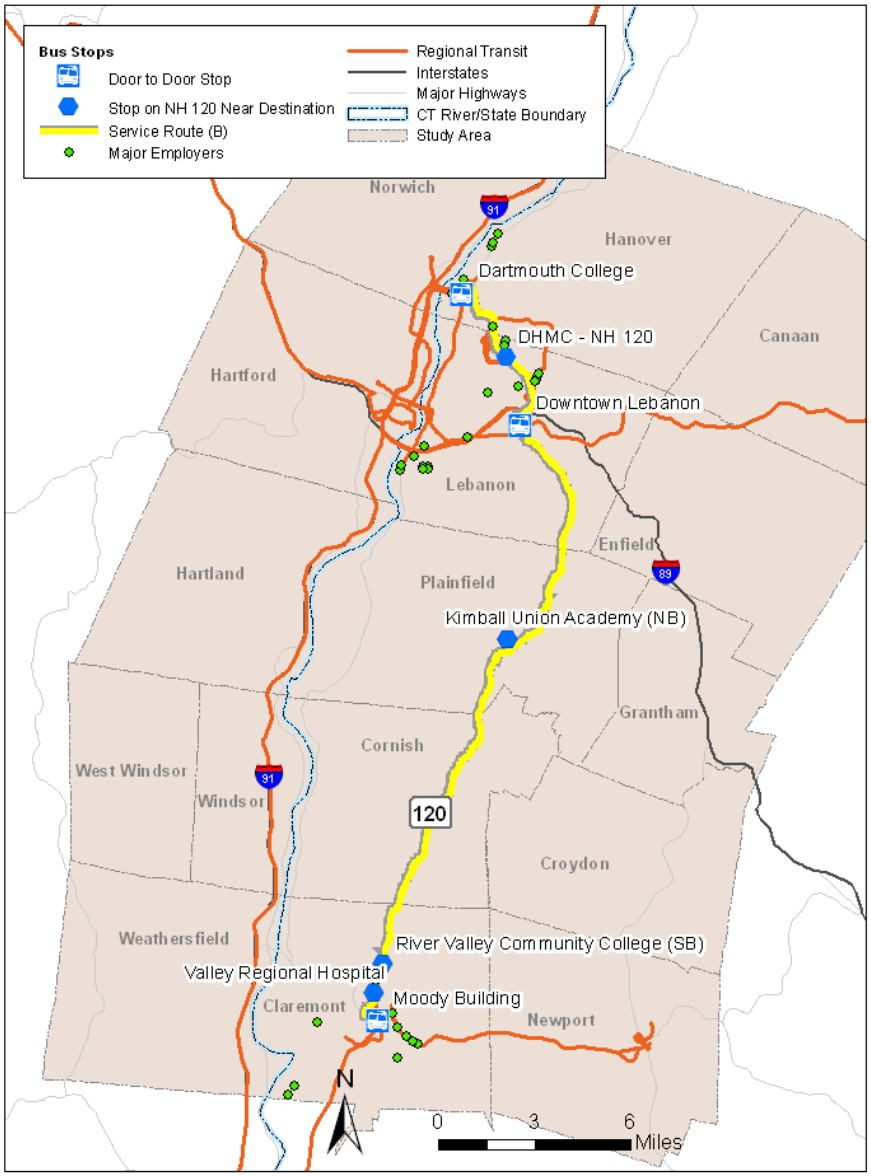
Option B: Claremont to Hanover

Overview

- Operate between Claremont and Hanover
- Connect to CATS and AT for local connection
- Service to DHMC and Dartmouth
  - DHMC served via parking lot off of NH 120

Strengths/Weaknesses

- Requires fewer connections to some major employers
- Balances need for direct service with major destinations



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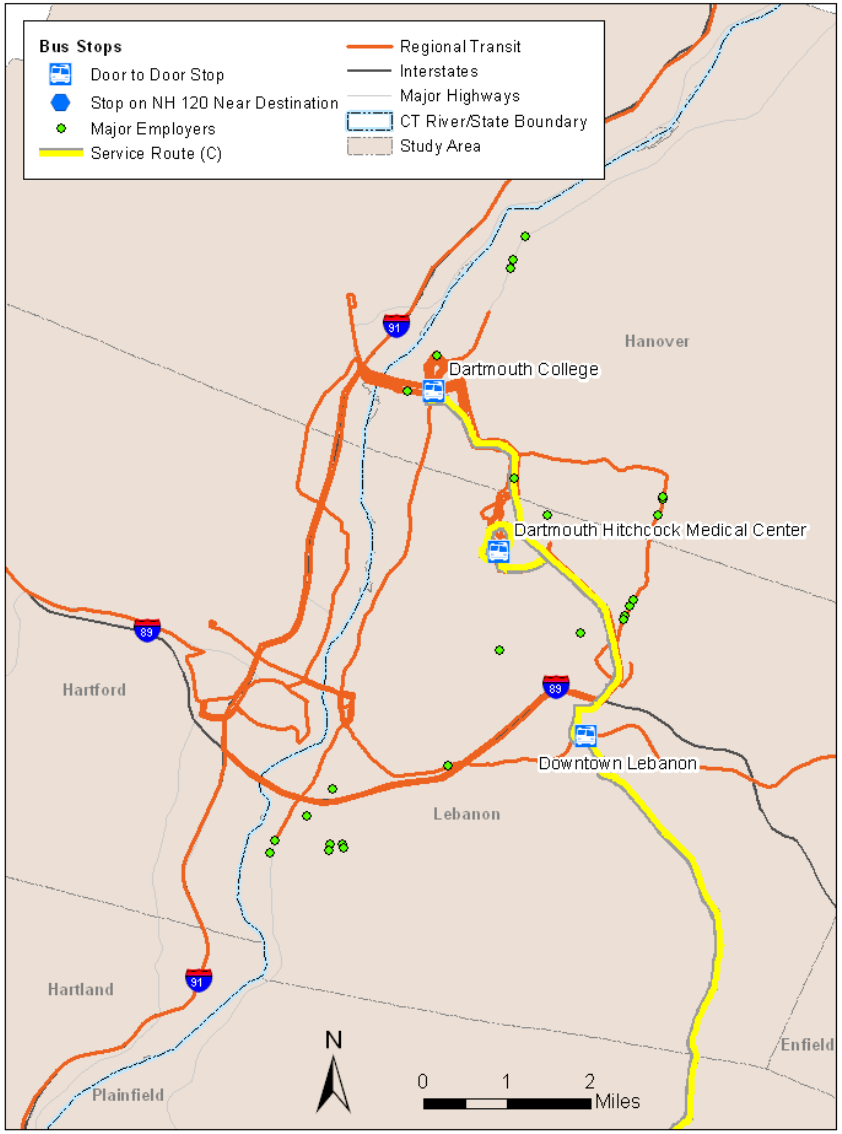
Option C: Claremont to Hanover - Service to DHMC

Overview

- Claremont to Hanover
- Connect to CATS and AT for local connection
- Service to DHMC and Dartmouth
  - Door to door to DHMC

Strengths/Weaknesses

- Focus on DHMC – region's largest employer
- Balances need for direct service with major destinations
- Does not serve Etna Road



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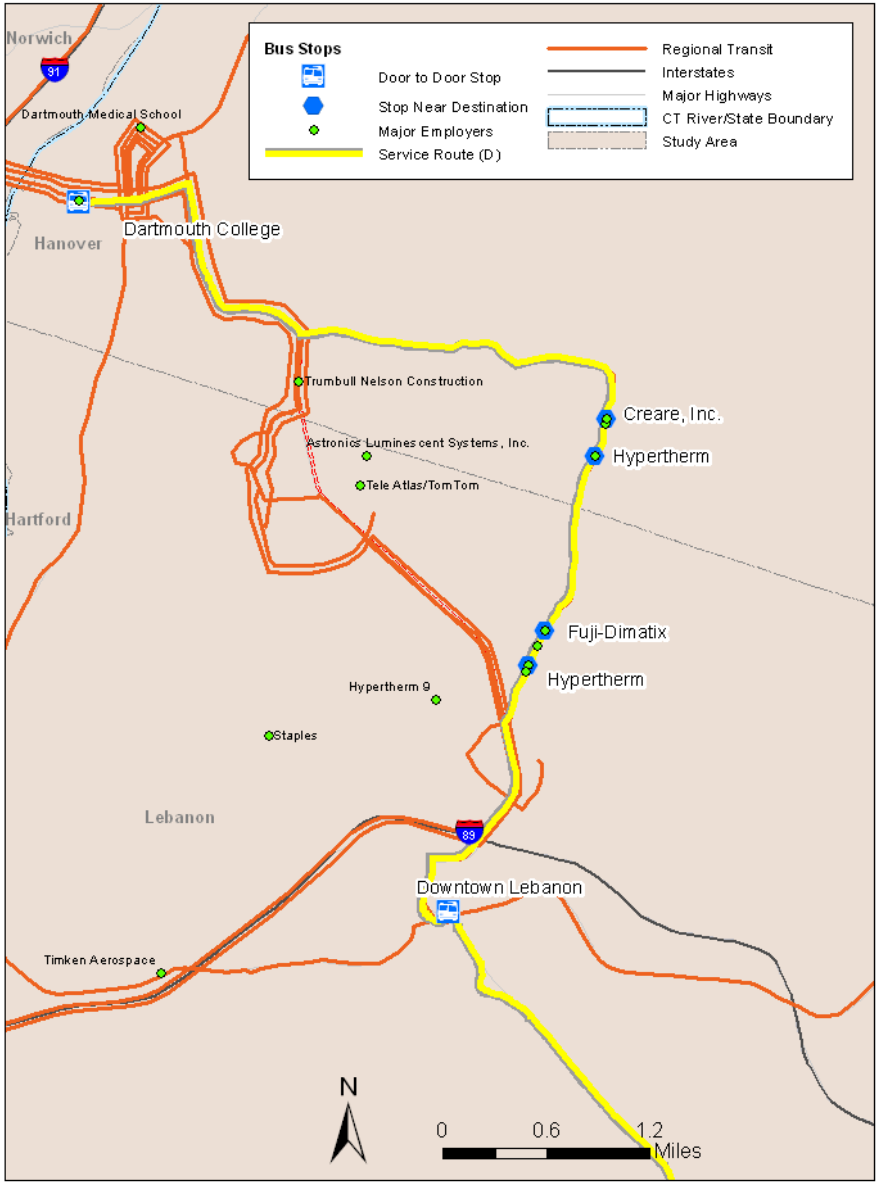
Option D: Claremont to Hanover via Etna Road

Overview

- Claremont to Hanover
- Connect to CATS and AT for local connection
- Serves Etna Road employers

Strengths/Weaknesses

- Alternative routing
  - Etna Road employers have less service generally (than DHMC)
- Service to DHMC via transfer
  - Less attractive for medical trips



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Preliminary Service Options

Option	Start	Finish	Feature	One-Way Travel Time*	Annual Cost for 5 Trips/Day **
A	Claremont	Lebanon	Direct with Corridor Stops	45	$112,500
B	Claremont	Hanover	Direct with Corridor Stops	55	$135,000
C	Claremont	Hanover	Front door service to DHMC	65	$165,000
C	Claremont	Hanover	Via Etna Road	65	$165,000

Notes: *Times rounded based on Google Maps
**Costs assume $60/hour operating costs, 250 days per year

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Service Options: Demand Implications

Option	Major Destinations Served	Estimated Employee Population	Annual Cost for 5 Trips/Day **
A	Downtown Claremont Downtown Lebanon	1,500	$97,500
B	Above plus: DHMC Downtown Hanover	2,000	$135,000
C	Above plus: DHMC Door to Door	6,500	$165,000
D	Above plus: Etna Rd. Employers	2,700	$165,000

Notes: **Costs assume $60/hour operating costs, 250 days per year

Other Options

- Connect NH 120 Fixed-Route Service to Newport Service
  - Strengthens potential NH 120 Service
  - Provides one-seat ride from Newport to Lebanon and/or Hanover
  - Changes Newport existing service
    - Could expand or just re-organize service
    - Join with NH120 would likely orient service towards commuter service

Discussion and Comments

- Next Steps
  - Finalize service concepts
  - Estimate demand
  - Hold public workshops
    - Late April/early May?
    - Outreach and Logistics