I-90 Interchange Study

Public Open House

October 10, 2019
6:30 pm to 9:00 pm

Blandford Town Hall
1 Russell Stage Road, Blandford

massDOT
Massachusetts Department of Transportation

I-90 Interchange Study

Meeting Agenda

- Welcome and Introductions
- Study goals, mission, evaluation criteria
- Existing conditions analysis
- Future no-build analysis
- Alternatives development
- Alternatives analysis
- Draft study findings
- Project schedule
- Opportunity for public comment

I-90 Interchange Study

Study Goals and Mission

Study Goals

- Primary: Improve access to and from I-90 for towns in center of regional study area
- Secondary: Mitigate I-90-bound traffic to and from Lee and Westfield

Mission Statement

"**The purpose of the I-90 Interchange Study is to identify feasible potential locations for a new interchange that will provide improved access and mobility for residents and businesses in the regional study area.** These locations must acknowledge the gap in access of nearly 30 miles between Exits 2 and 3, and the safety and access issues created by that distance. Interchange locations will be evaluated based on their ability to avoid or minimize impacts to environmental resources and abutting properties. The study will identify improvements to connecting roadways that are necessary to accommodate changes in passenger vehicle and truck traffic, and will identify the effects of that traffic on affected communities. The ability for improved access to serve as a benefit to economic development will be evaluated, as will the ability for communities to maintain their existing land use patterns and character. Potential interchange locations will be expected to provide benefits to health and air quality by providing an alternative that allows residents and businesses to reduce their travel times and miles traveled by providing improved access, resulting in reduced fuel consumption and emissions and less traffic at adjacent I-90 interchanges."

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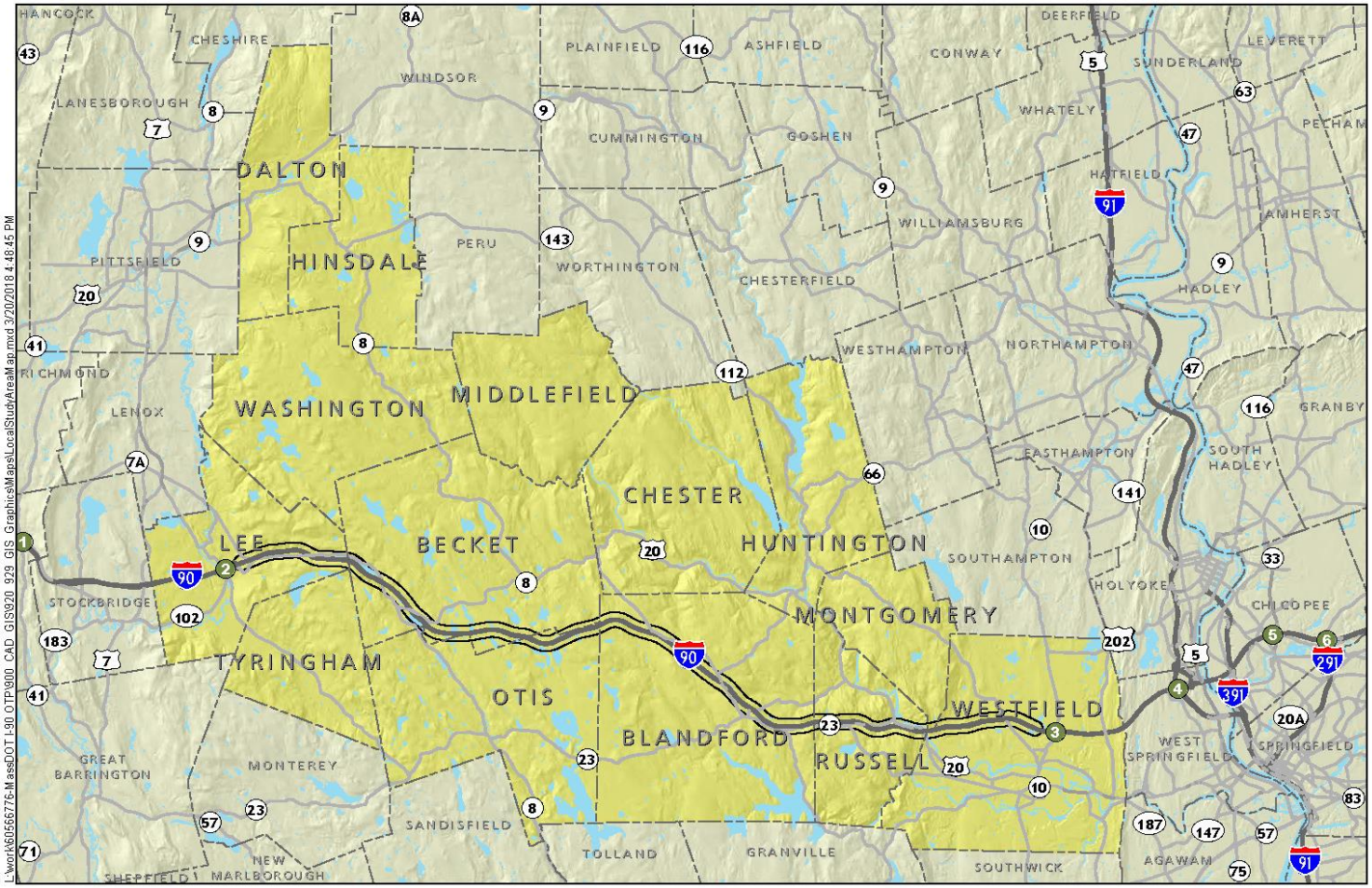
Study Area



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Evaluation Criteria

- Design & Operations
  - Interchange Type/Configuration
  - Local Road Connections
  - Impact on Adjacent Interchanges
  - Safety Improvements
  - Truck Traffic
- Environmental Resources
  - Wetlands
  - Water Resources
  - Protected Species Habitat
  - Steep Slopes / Topography
  - Public Open Space
  - Cultural Resources
  - Air Quality
  - Hazardous Materials

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Evaluation Criteria

- Socioeconomic Effects
  - Noise
  - Neighborhood Impacts
  - Right-of-Way Impacts
  - Environmental Justice
  - Economic Benefit
  - Public Health
- Financial & Regulatory
  - Construction Cost
  - Constructability
  - Property Takings
  - Need to Upgrade Connecting Roadways
  - Schedule and Phasing
  - Permit Requirements
  - Regulatory Filings
  - Mitigation Requirements

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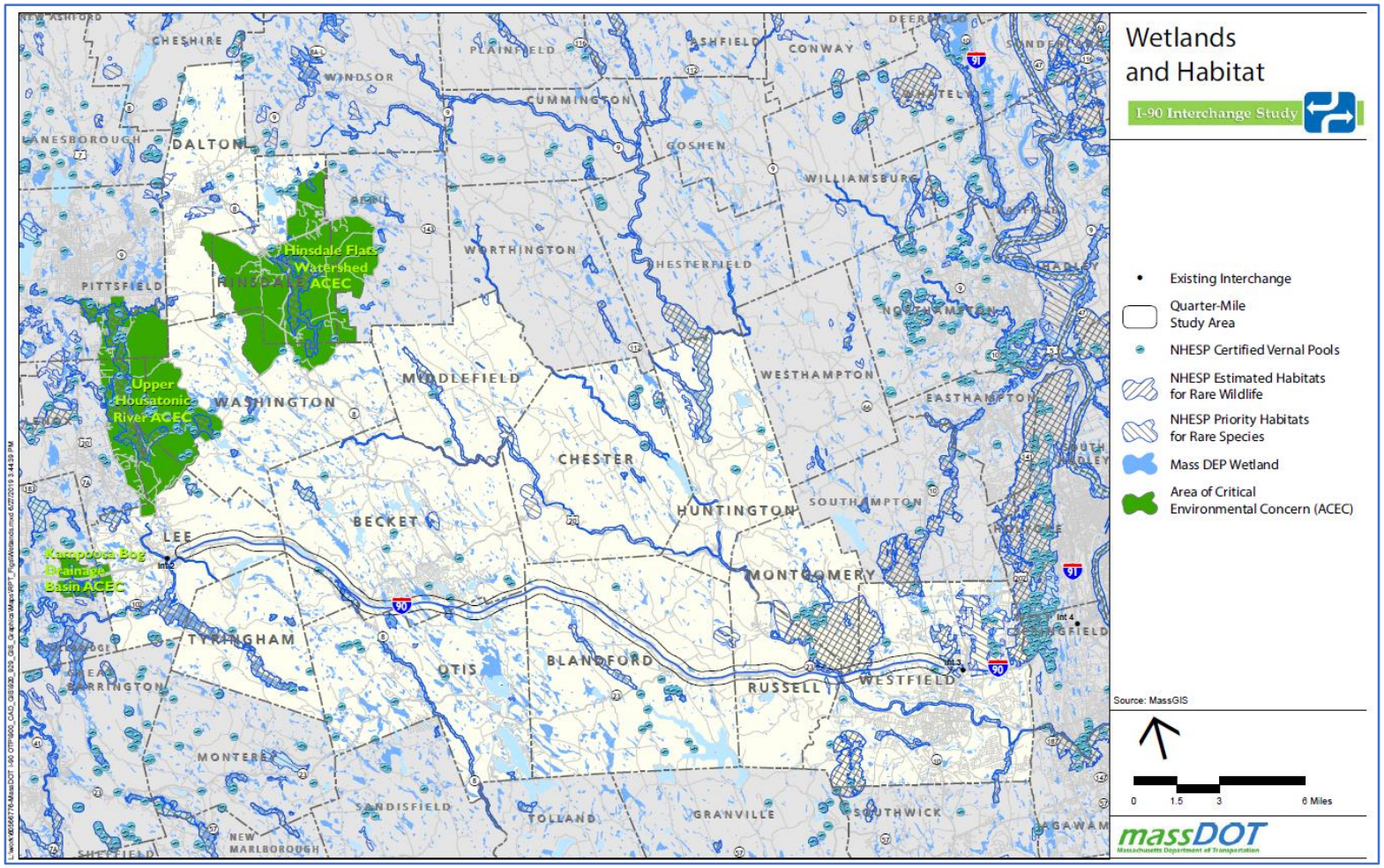
Existing Conditions

- Wetlands and Habitats



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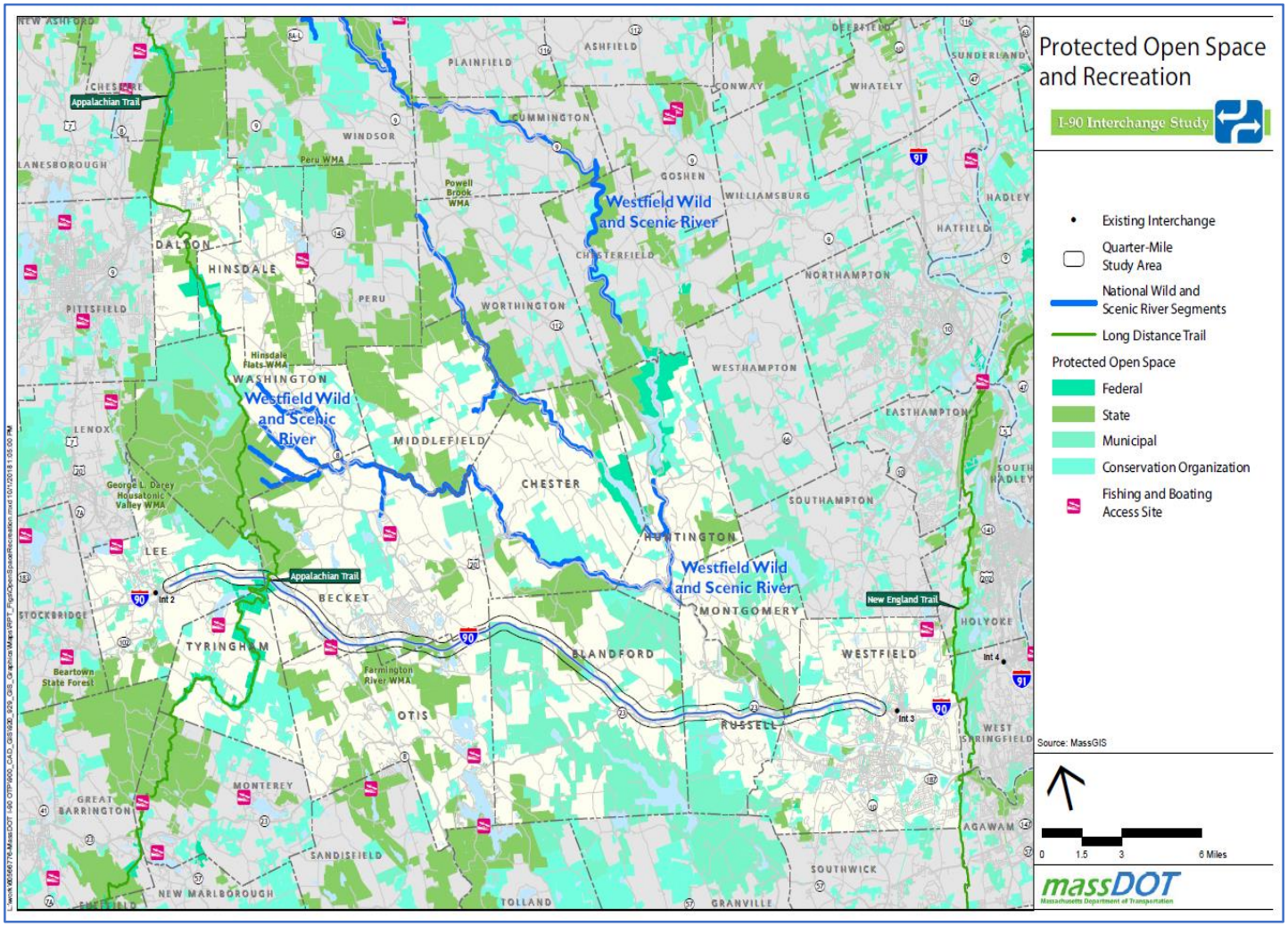
Existing Conditions

- Protected Open Space



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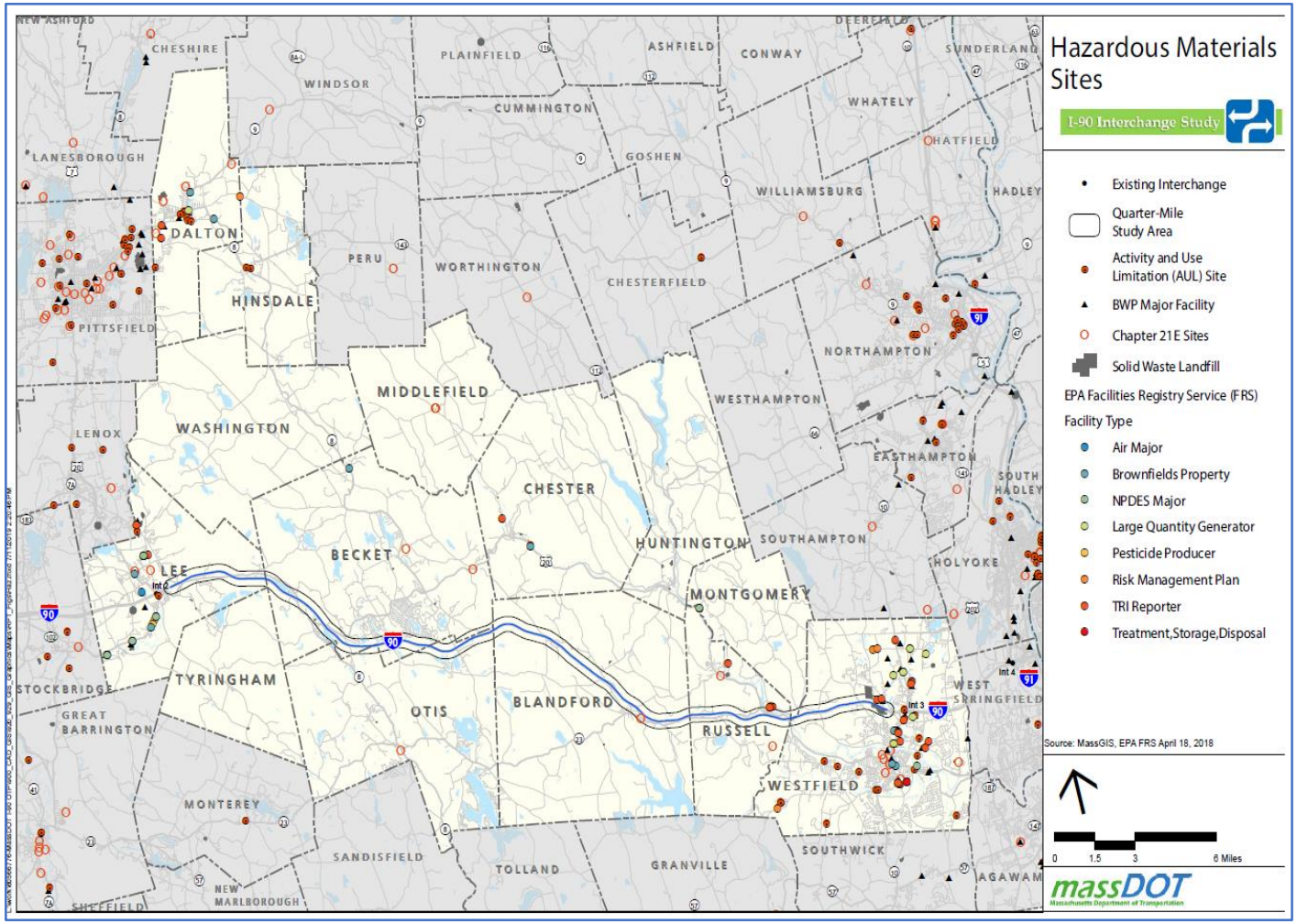
Existing Conditions

- Hazardous Material Sites



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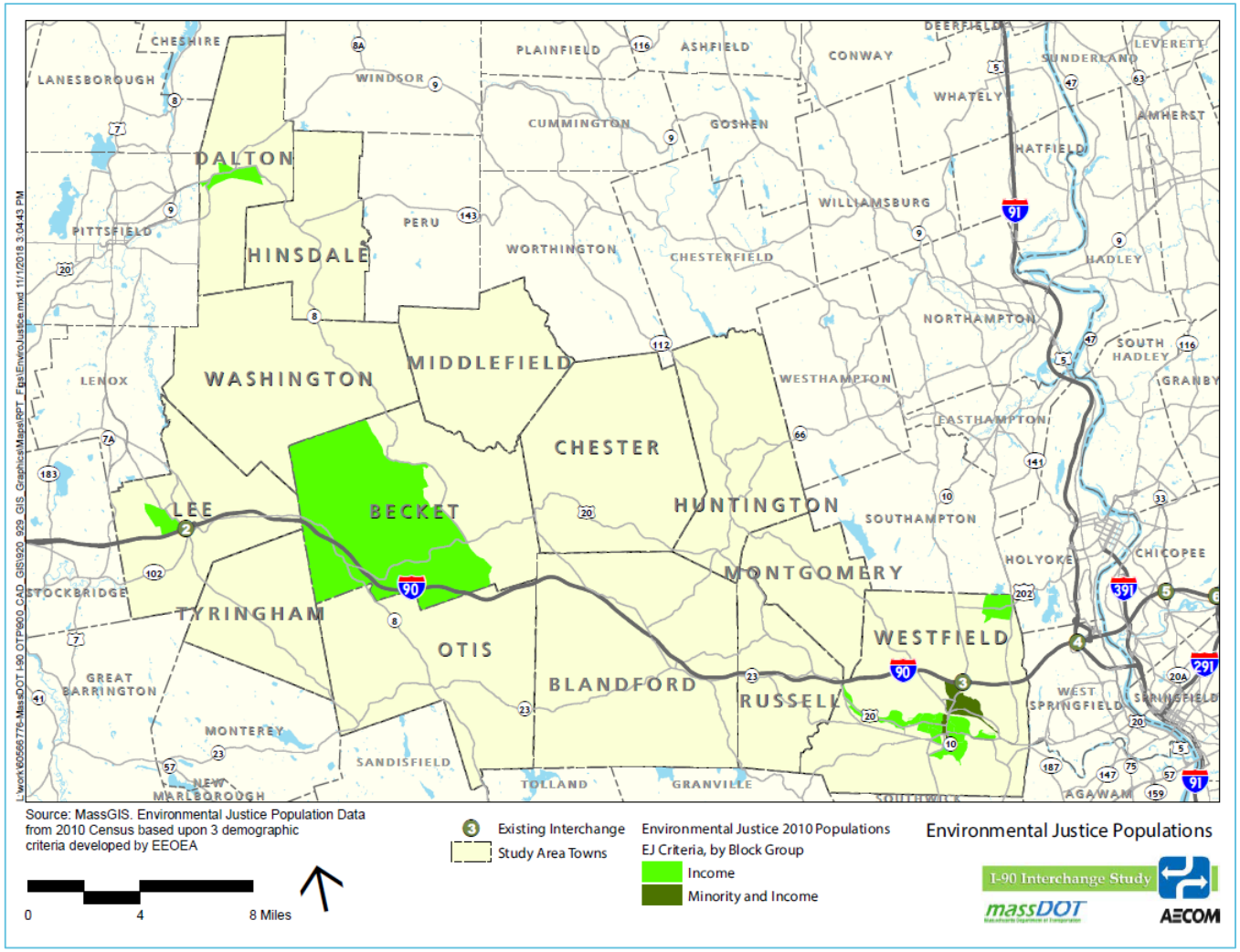
Existing Conditions

- Environmental Justice (EJ) Populations



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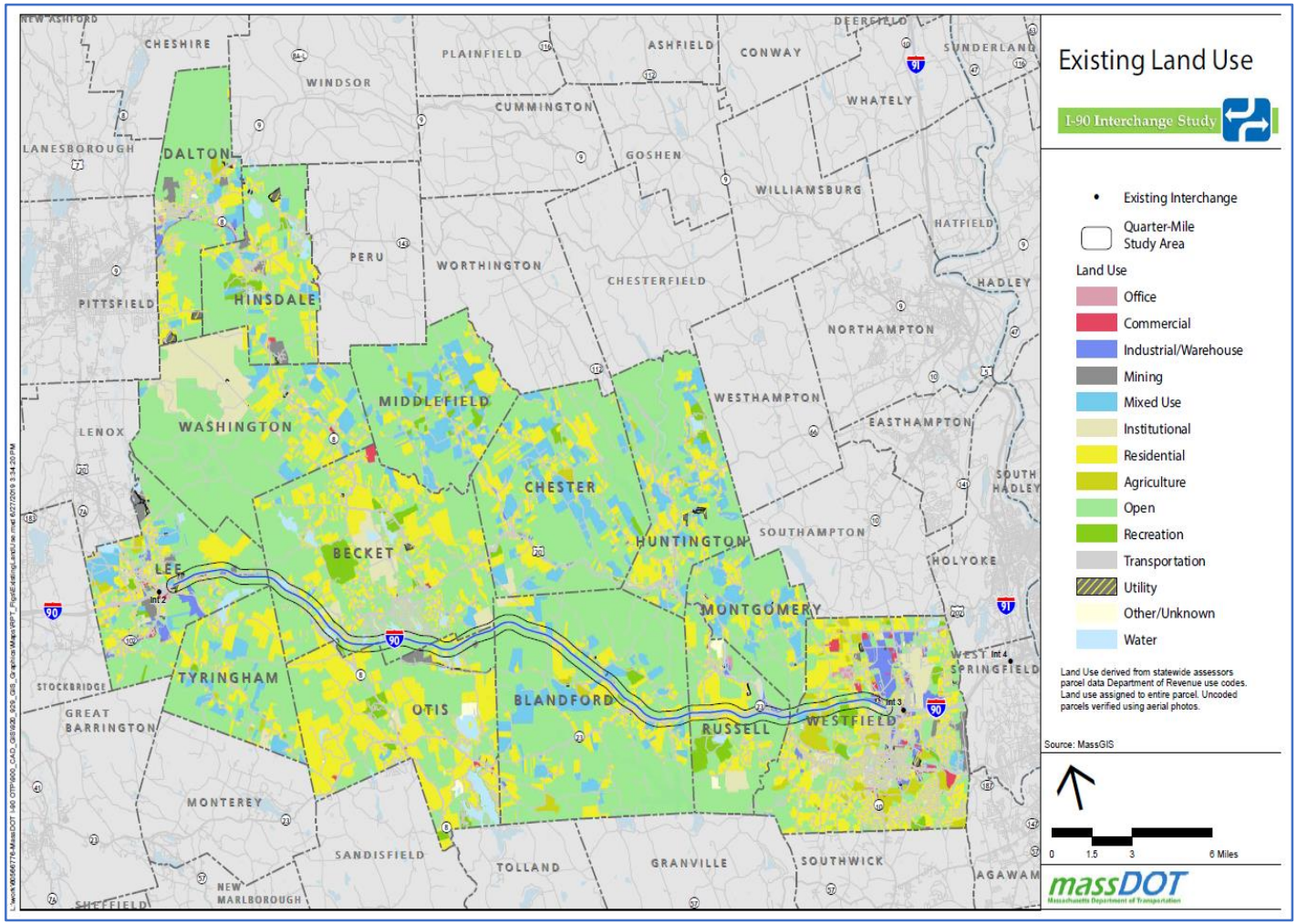
Existing Conditions

- Existing Land Use



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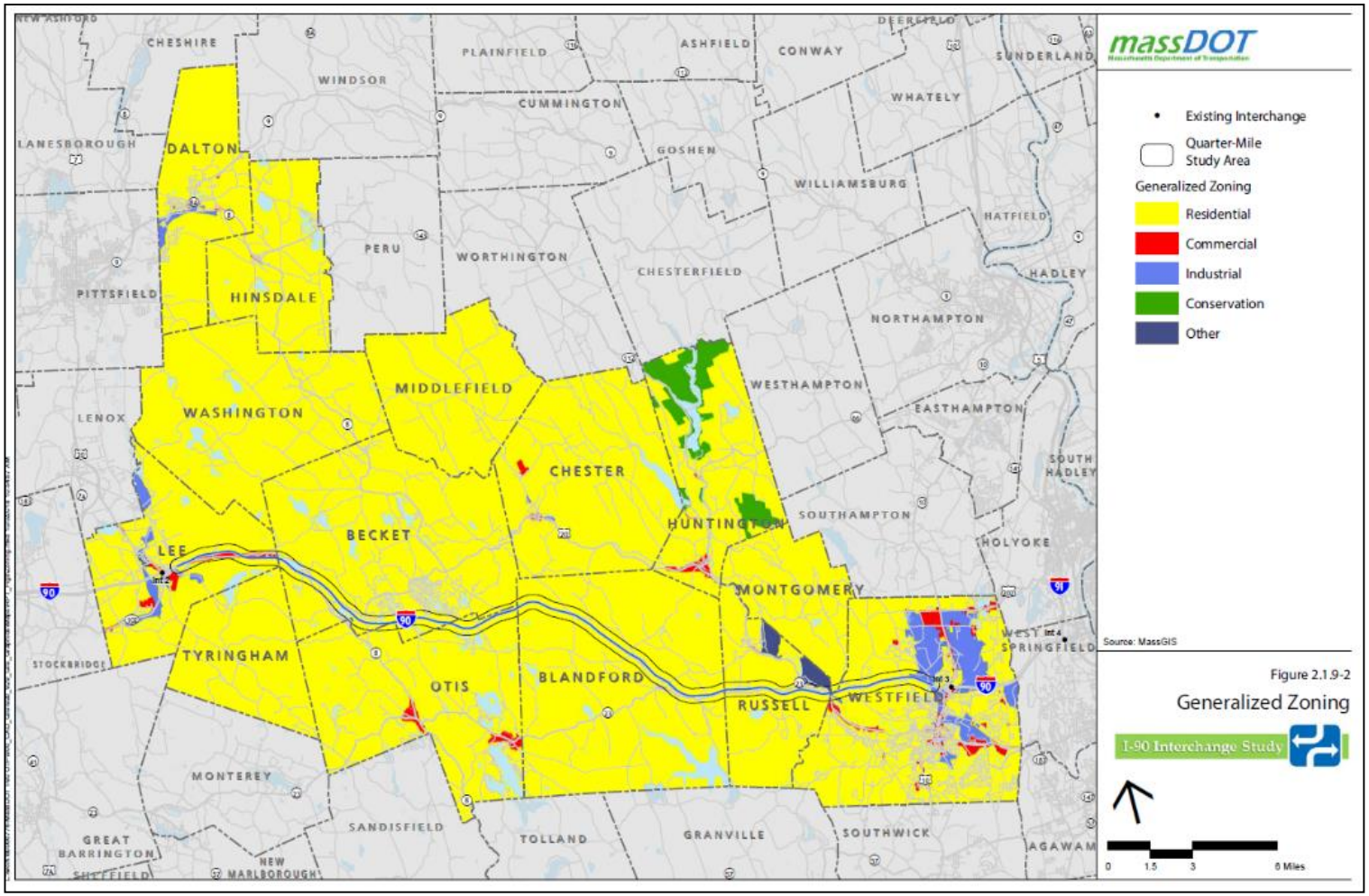
Existing Conditions

- Zoning



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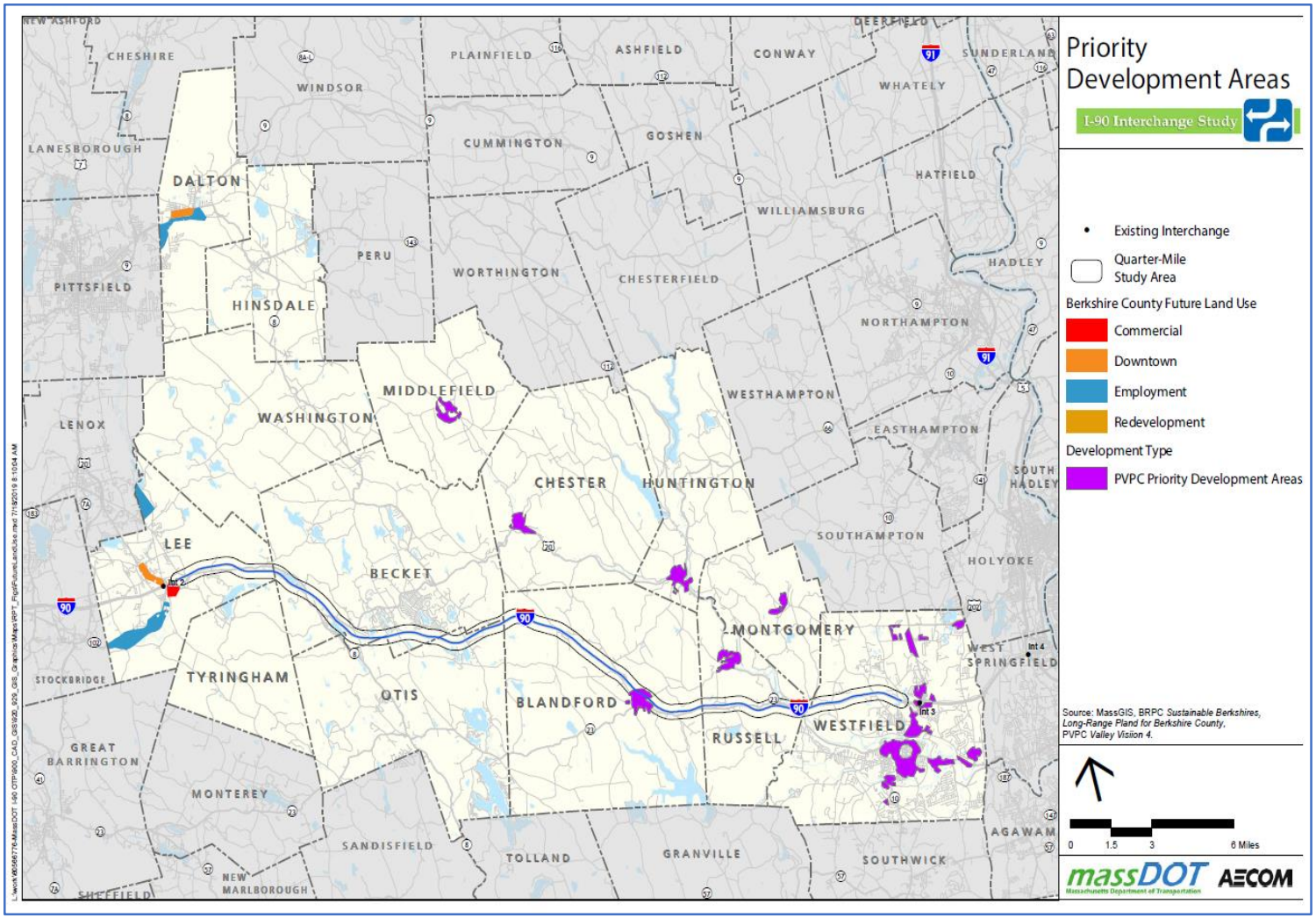
Existing Conditions

- Locally identified Priority Development Areas



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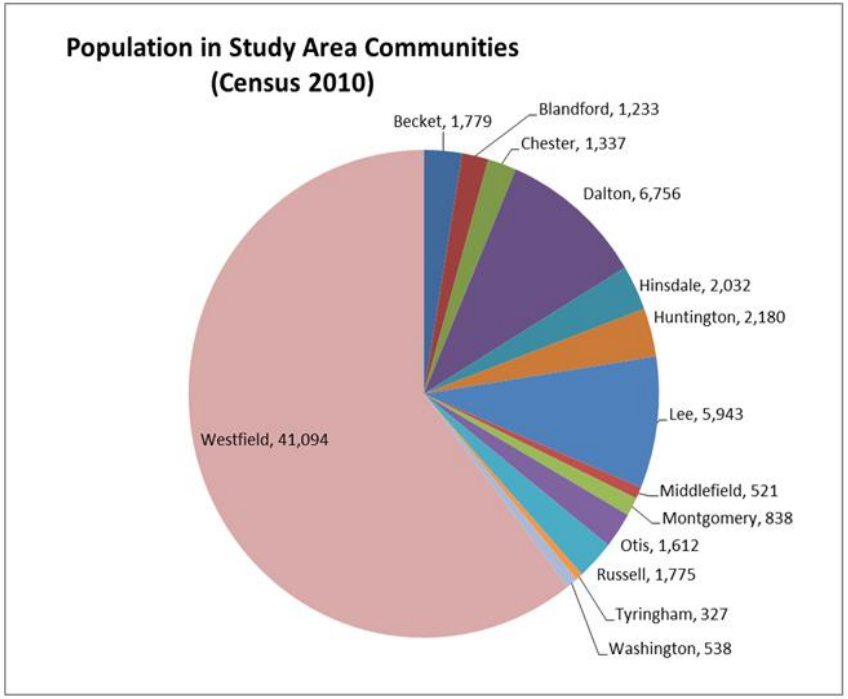
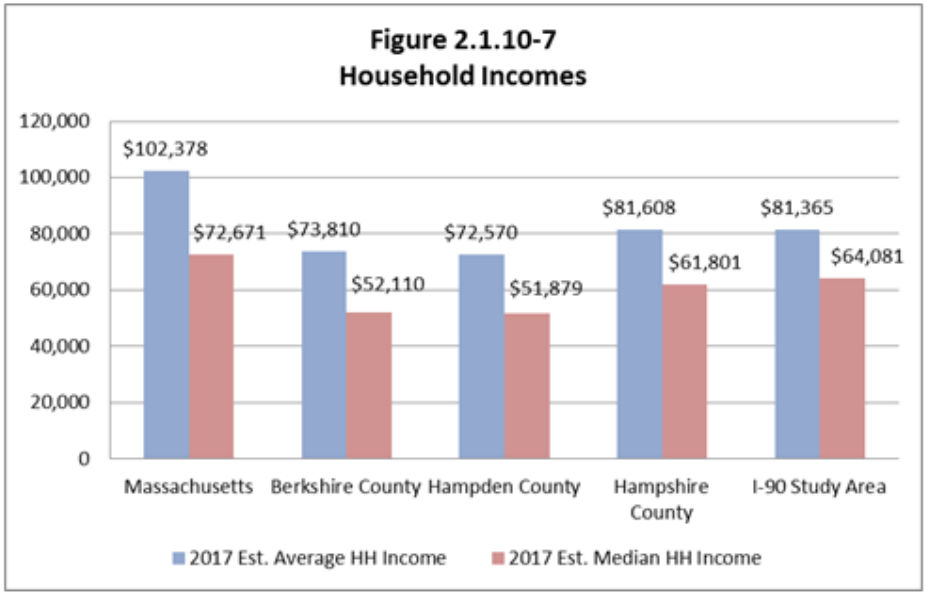
Existing Conditions

- Socioeconomic Conditions

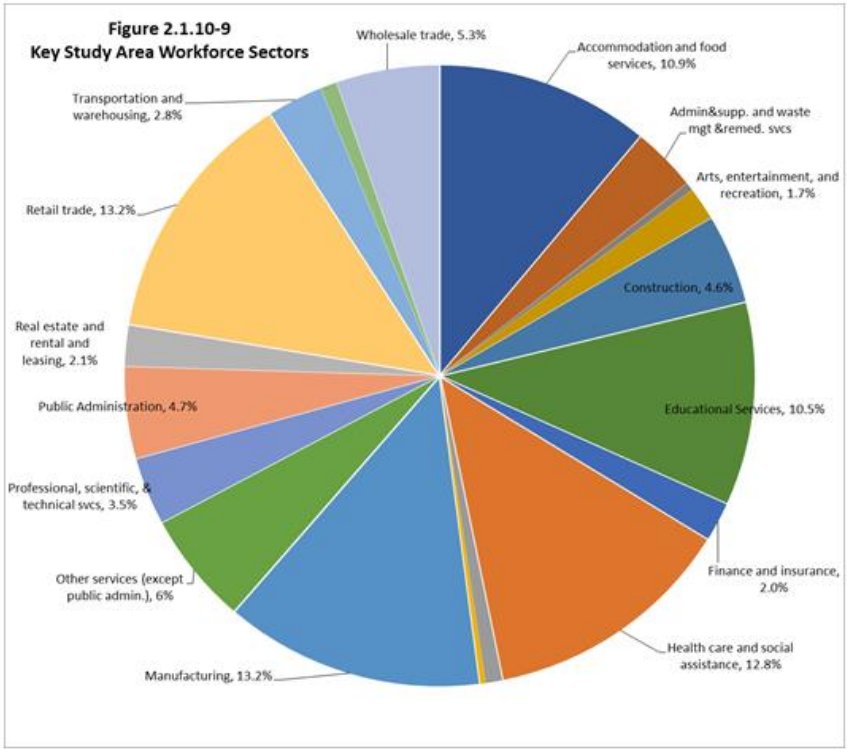


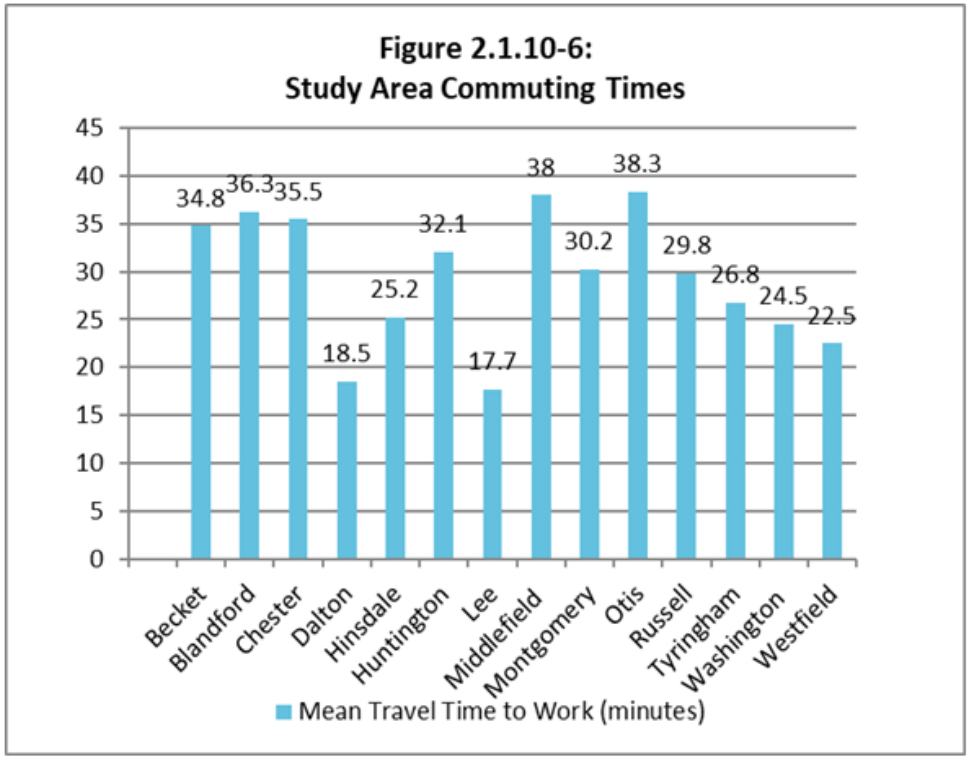


I-90 Interchange Study

Existing Conditions

- Socioeconomic Conditions





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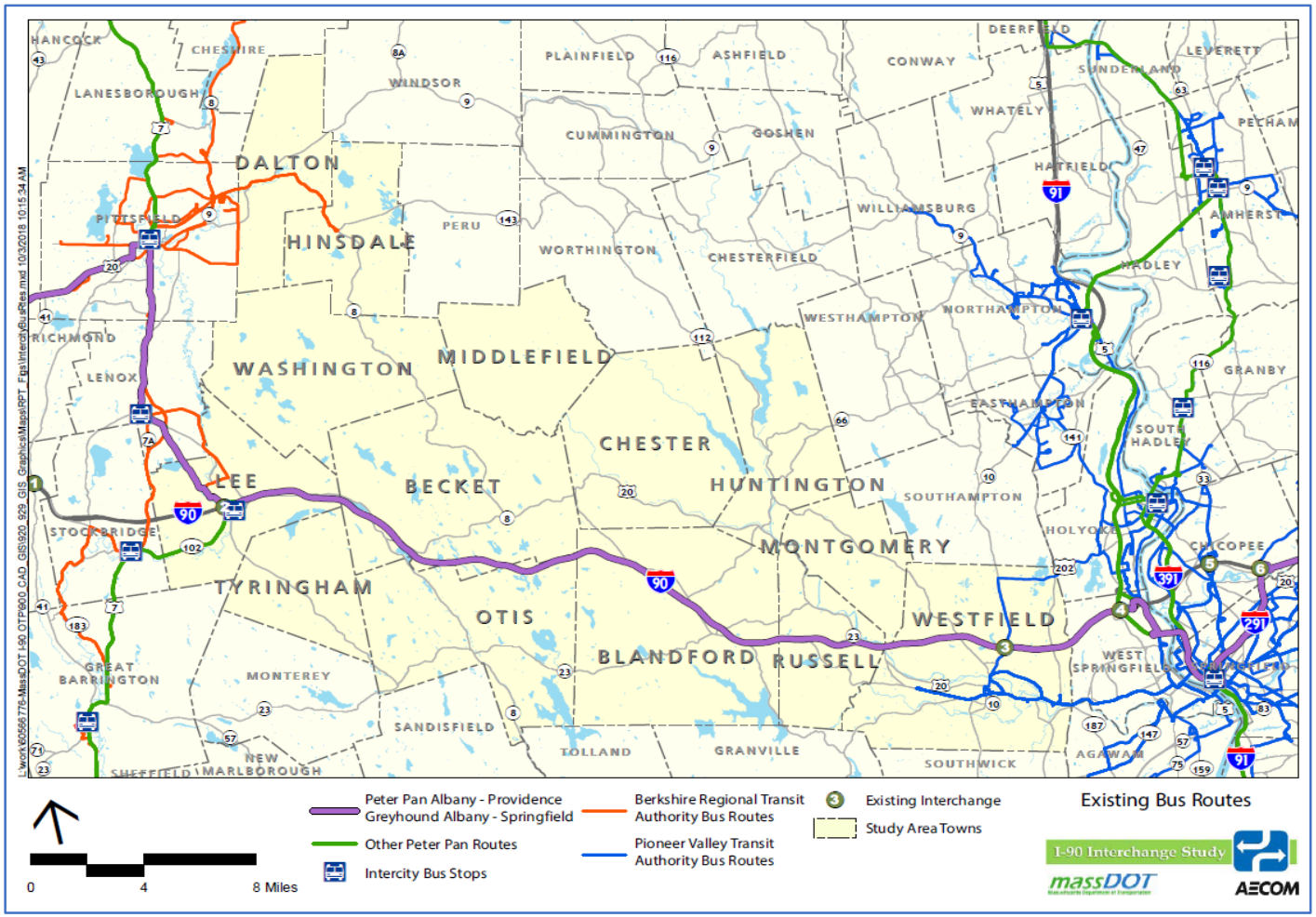
Existing Conditions

- Multimodal transportation facilities
  - Largely limited to Lee and Westfield



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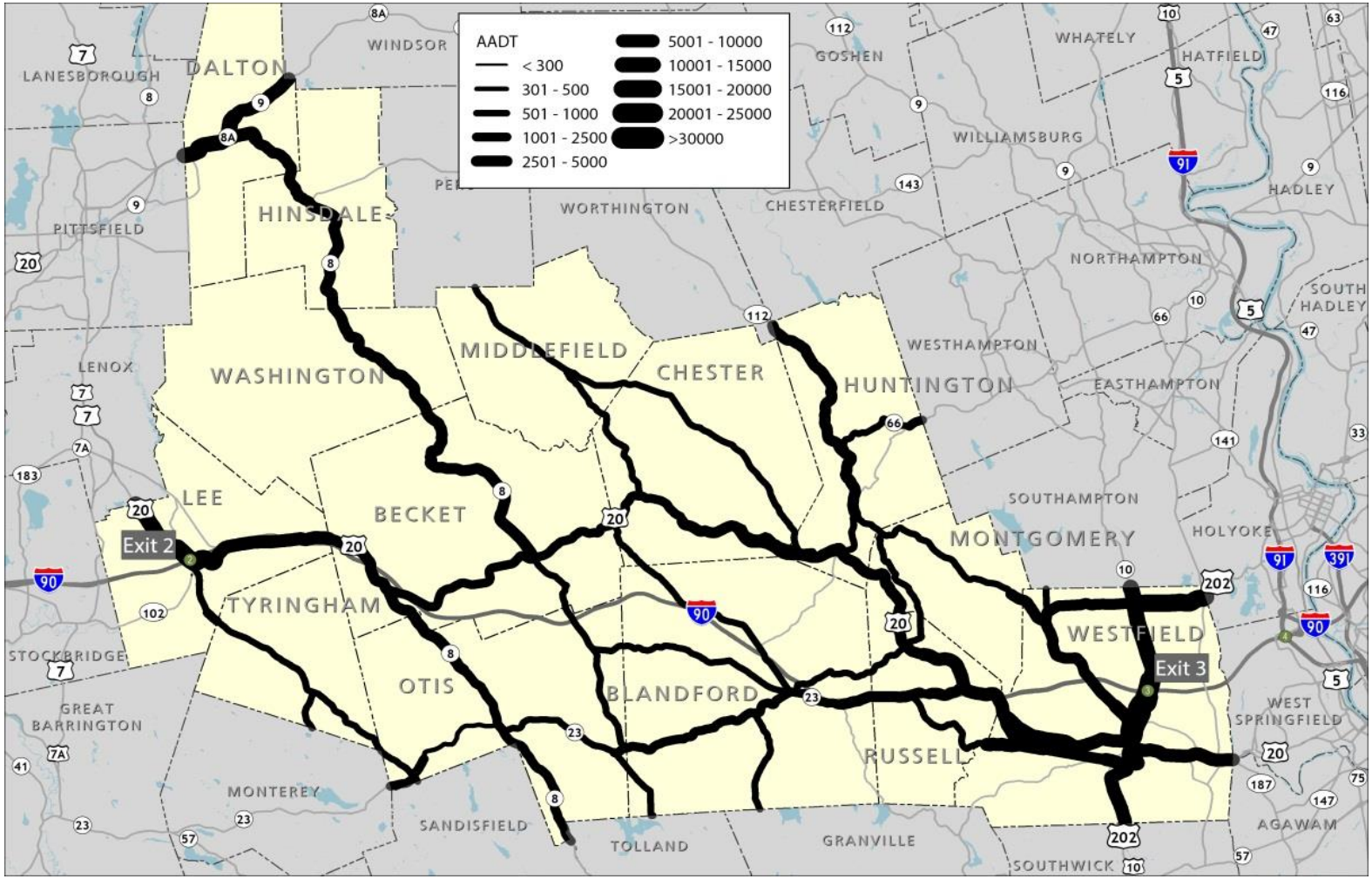
Existing Conditions

- Existing (2018) Annual Average Daily Traffic (AADT)



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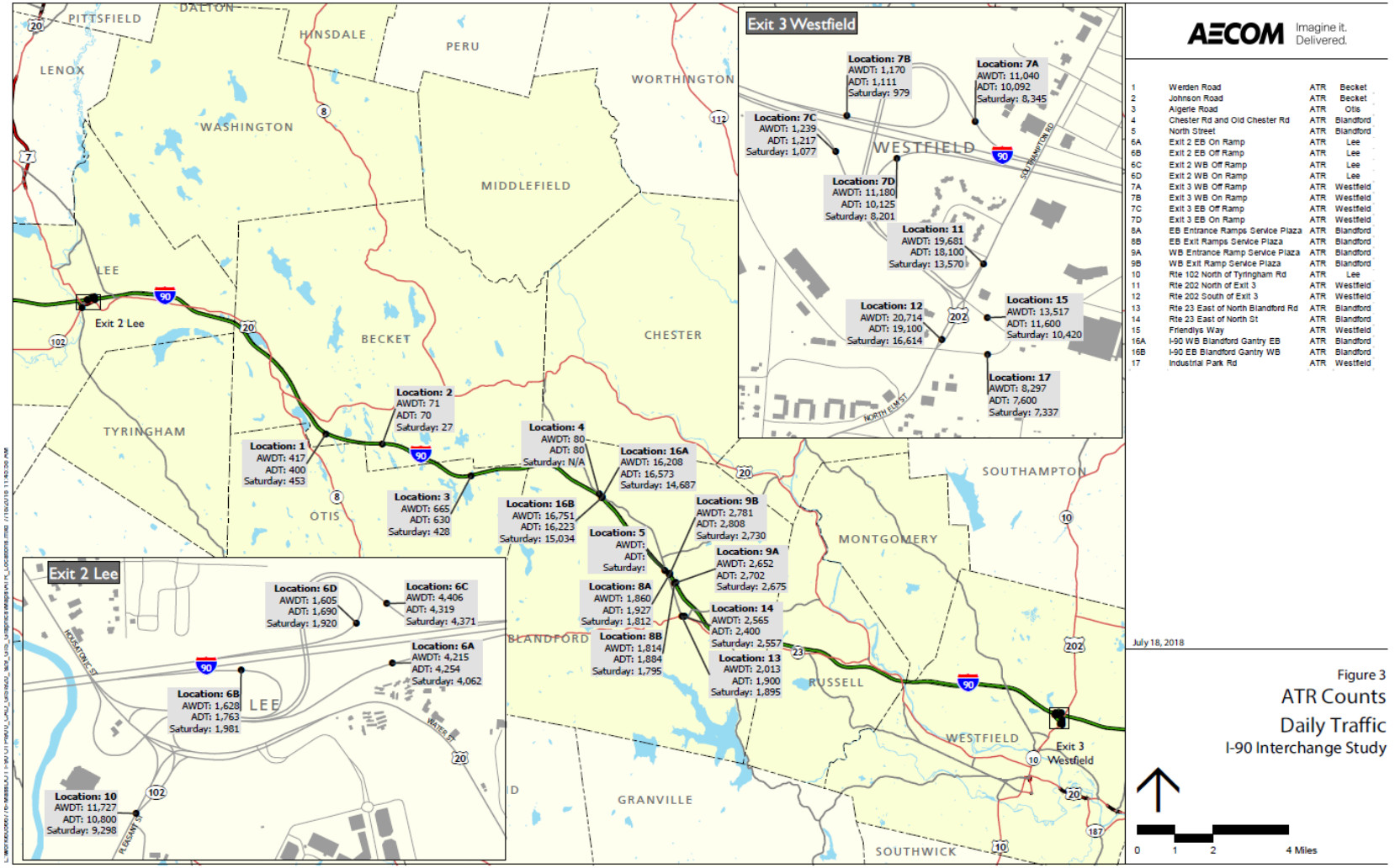
Existing Conditions

- Traffic Counts



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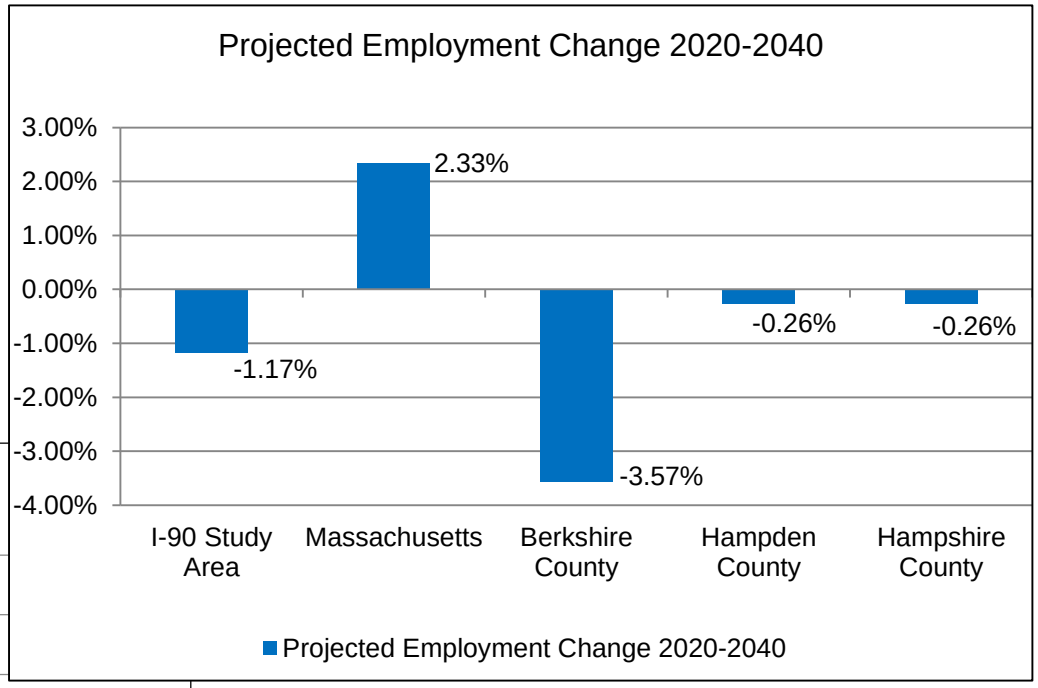
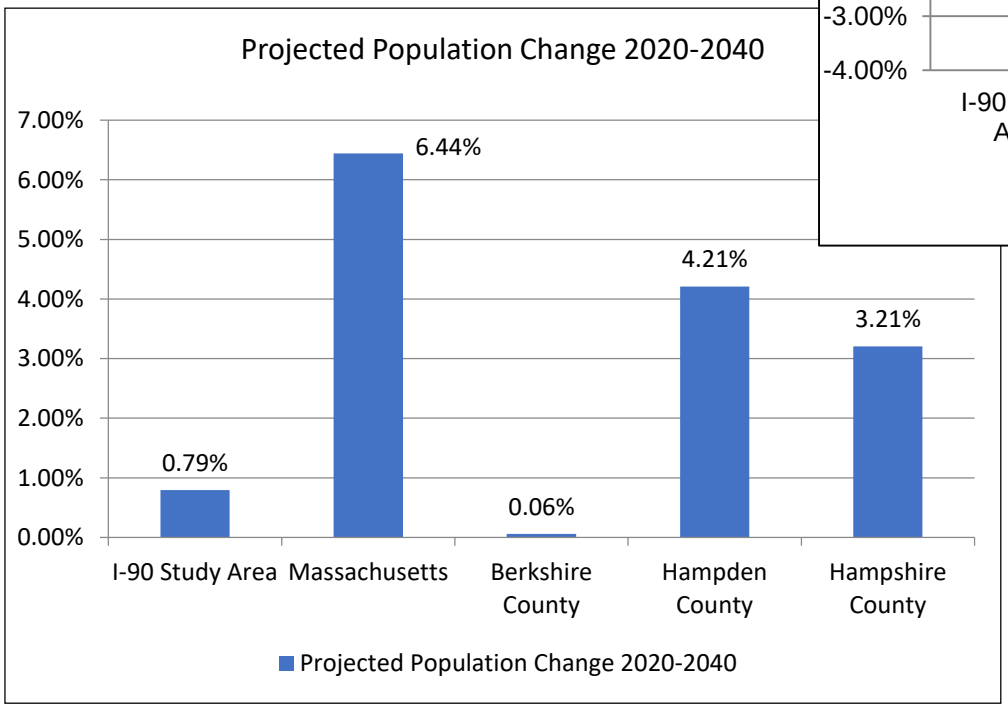
Future Year (2040) No-Build Conditions

- Statewide Travel Demand Model
- Forecast inputs





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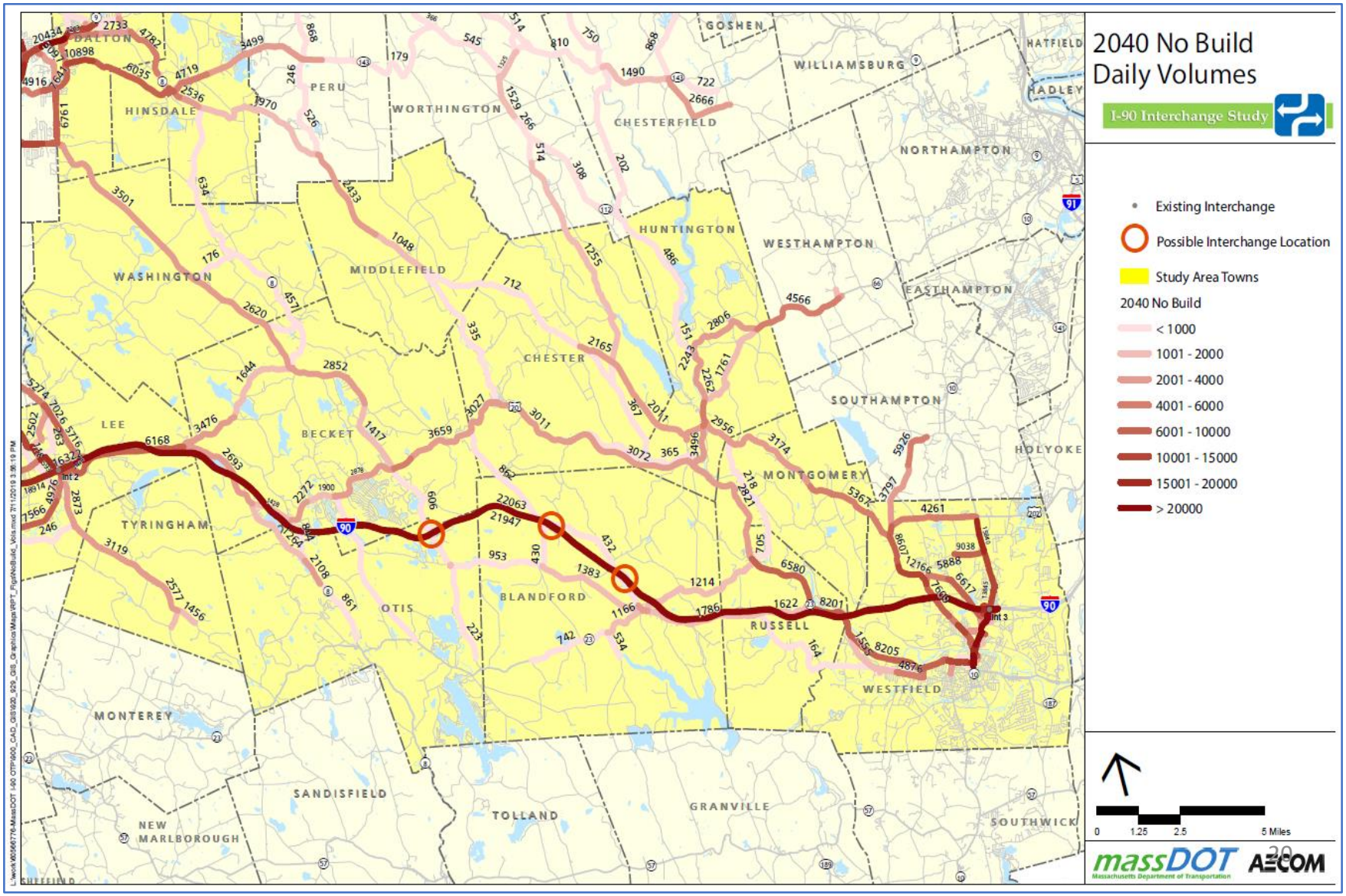
Future Year (2040) No-Build Conditions



- Alternatives development and initial screening
- Original seven alternatives selected based on existing roadways crossing over or under I-90
  - Loose Tooth Road/Route 20, Becket
  - Werden Road, Becket
  - Johnson Road, Becket
  - Algerie Road, Otis
  - Blandford Maintenance Facility, Blandford
  - Blandford Service Plaza, Blandford
  - Route 23, Russell

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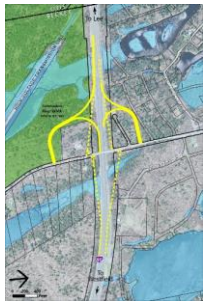
Alternatives Development

- Alternatives development and initial screening
- Original seven alternatives selected based on existing roadways crossing over or under I-90
  - ~~Loose Tooth Road/Route 20, Becket~~
  - ~~Werden Road, Becket~~
  - ~~Johnson Road, Becket~~
  - Algerie Road, Otis
  - Blandford Maintenance Facility, Blandford
  - Blandford Service Plaza, Blandford
  - ~~Route 23, Russell~~

Study Goals

- **Primary: Improve access to and from I-90 for towns in center of regional study area**
- Secondary: Mitigate I-90-bound traffic to and from Lee and Westfield







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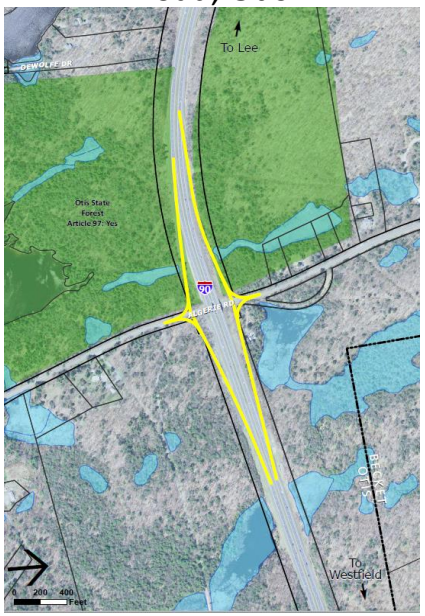
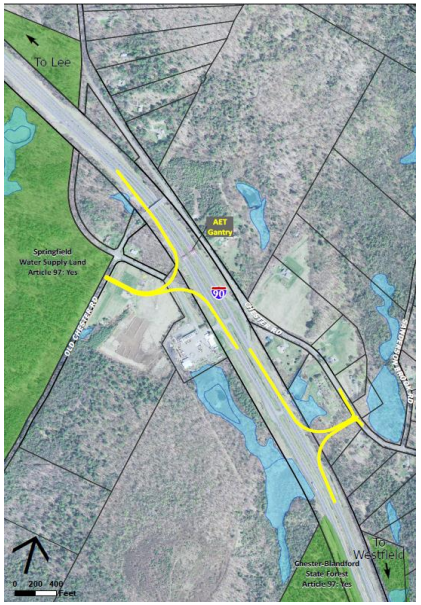
Alternatives Development

- Three Alternatives selected for further analysis
  1. Algerie Road, Otis
  2. Blandford Maintenance Facility, Blandford
  3. Blandford Service Plaza, Blandford
- Design concepts revised to minimize impacts

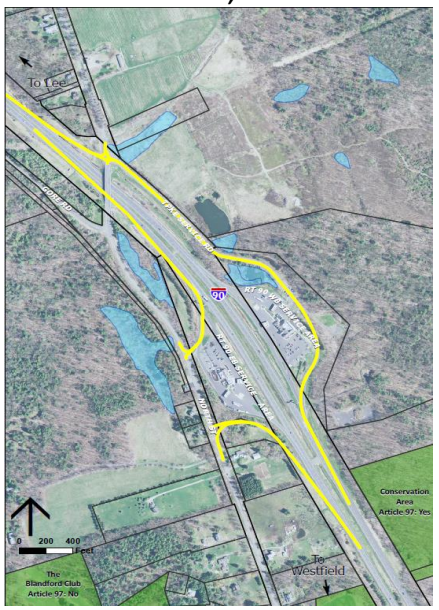
Alternative 1: Algerie Road, Otis



Alternative 2: Blandford Maintenance Facility, Blandford



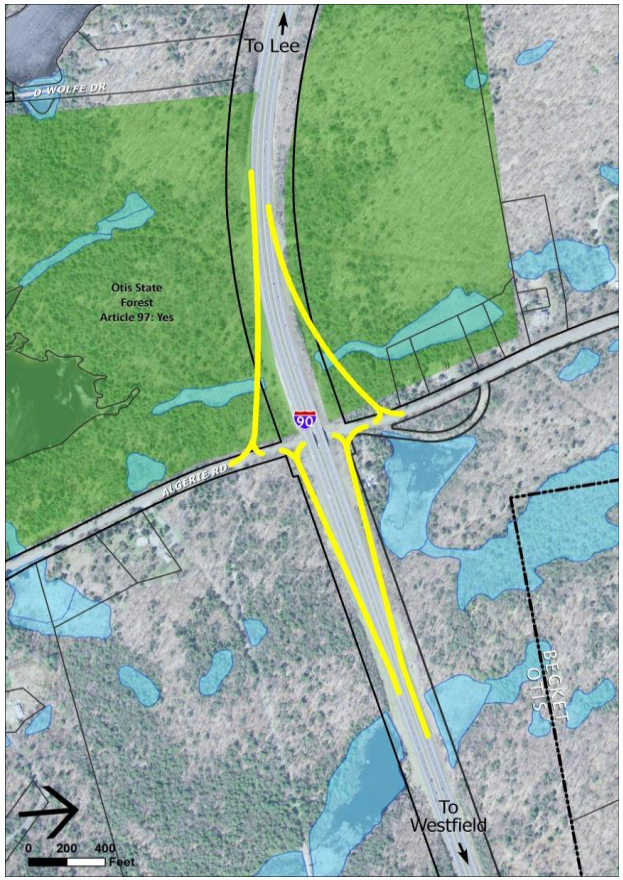
Alternative 3: Blandford Service Plaza, Blandford



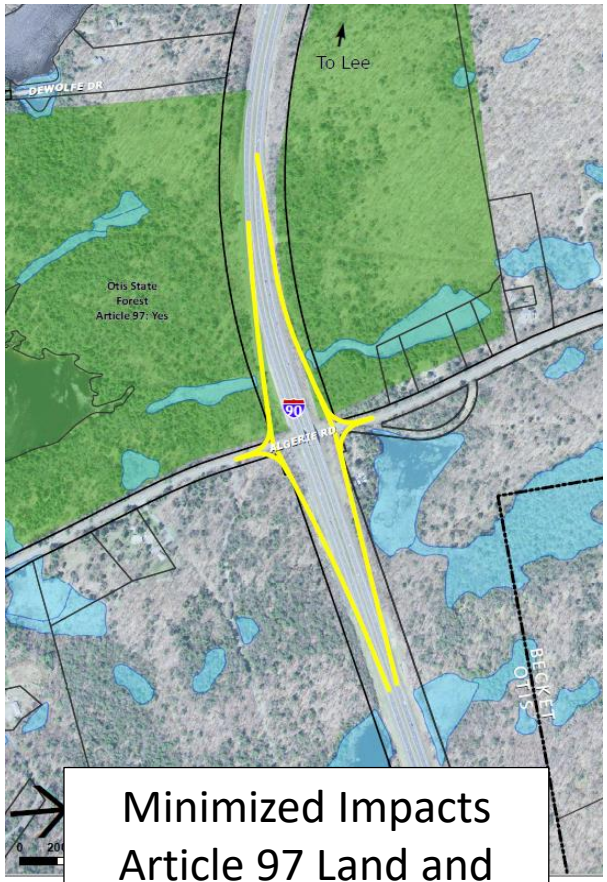
Alternatives Development:
Revised Concept Designs

Alternative 1: Algerie Road, Otis

Original Concept



Revised Concept



Minimized Impacts
Article 97 Land and
Wetlands

Alternatives Development:
Revised Concept Designs

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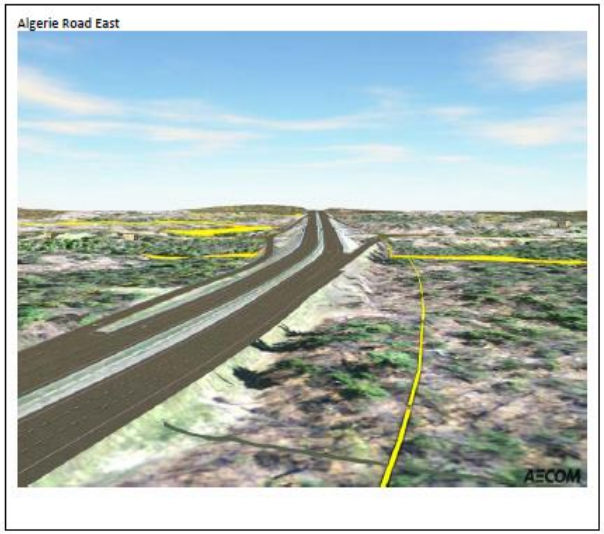
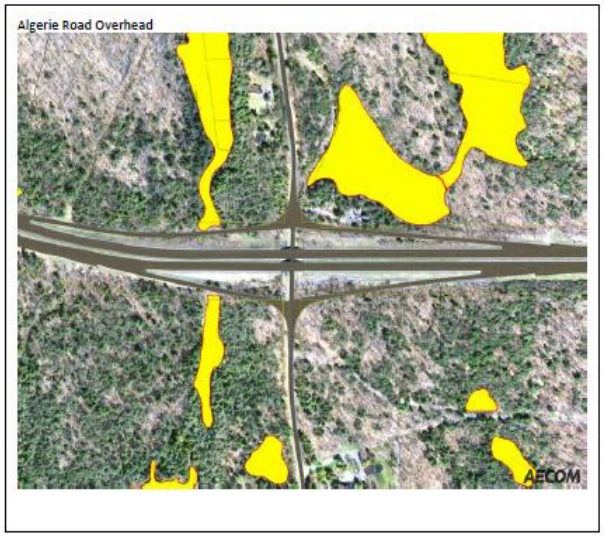


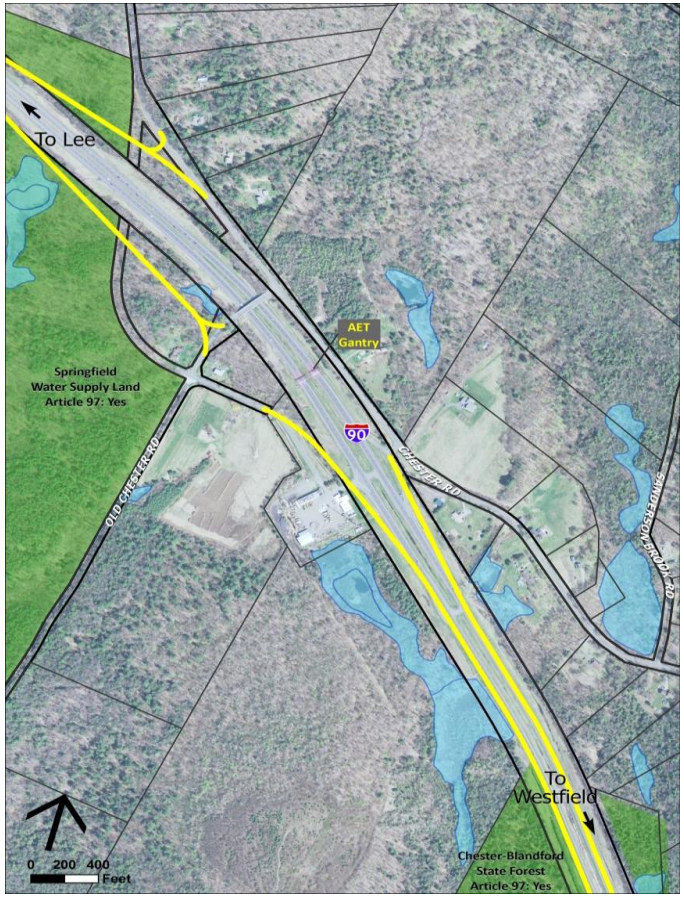


DEP Wetland

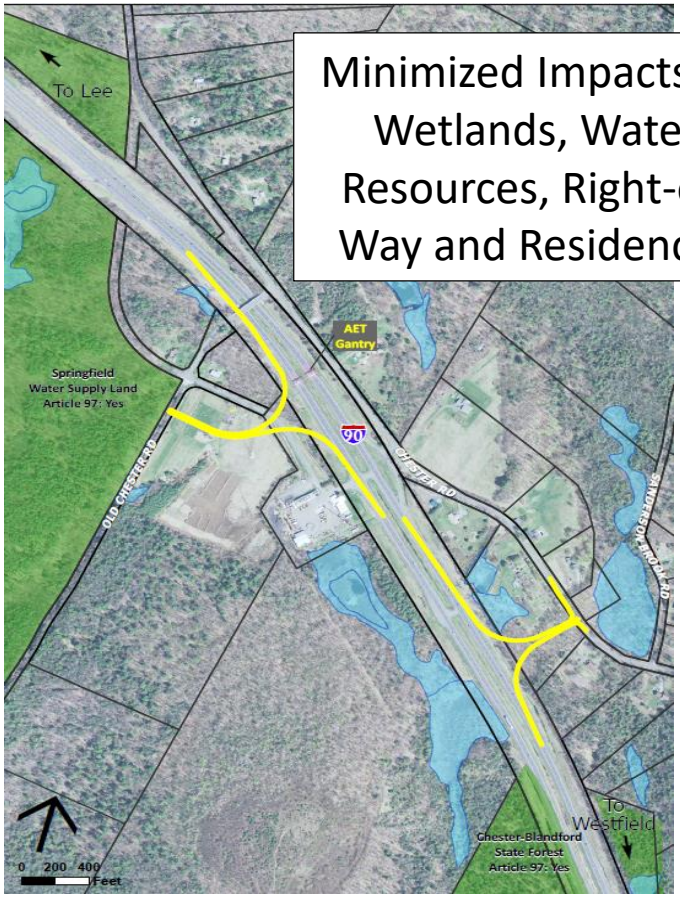
Alternatives Development:
Revised Concept Designs

Alternative 2: Blandford Maintenance Facility, Blandford

Original Concept

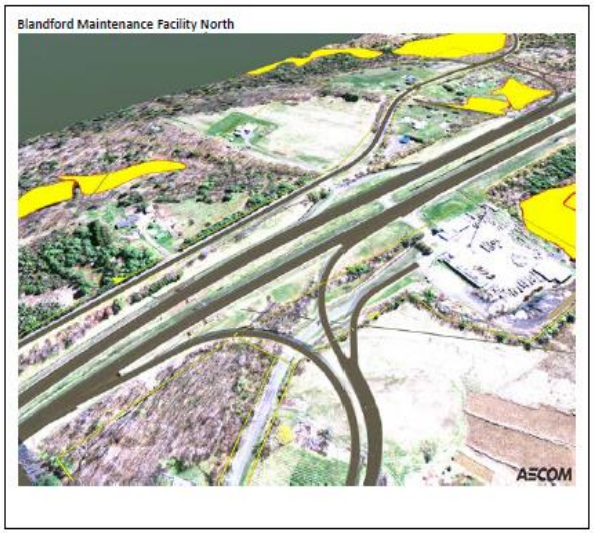


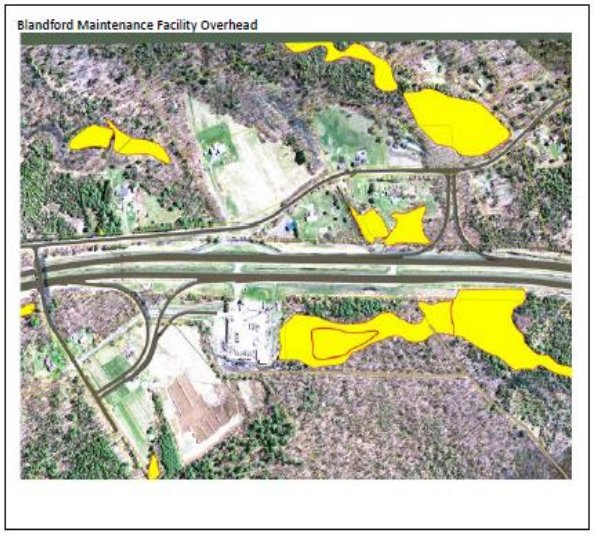
Revised Concept

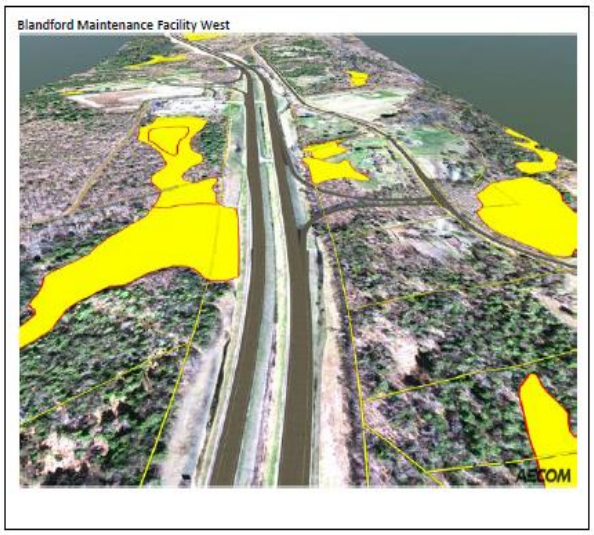


Minimized Impacts on Wetlands, Water Resources, Right-of-Way and Residences

Alternative 2: Blandford Maintenance Facility, Blandford





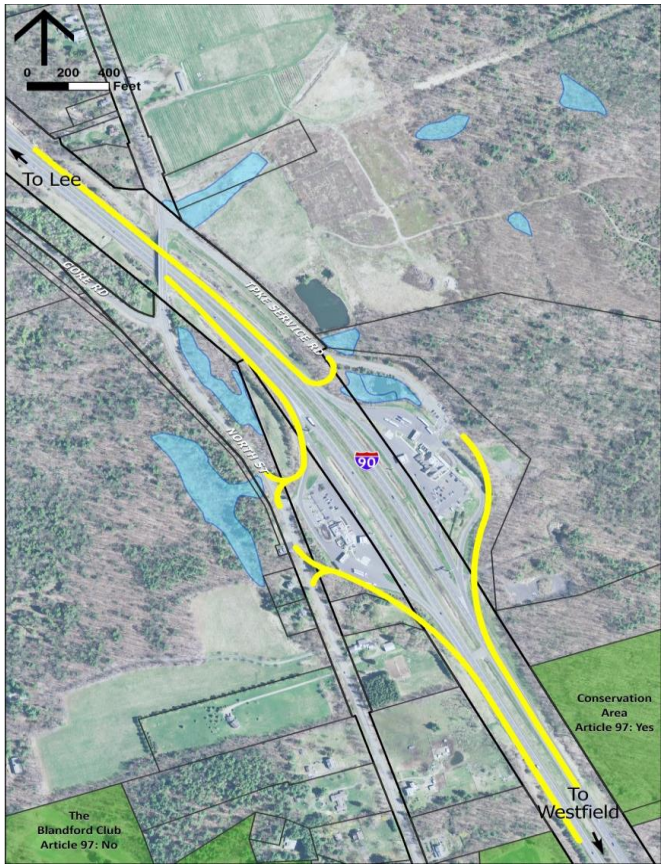


DEP Wetland

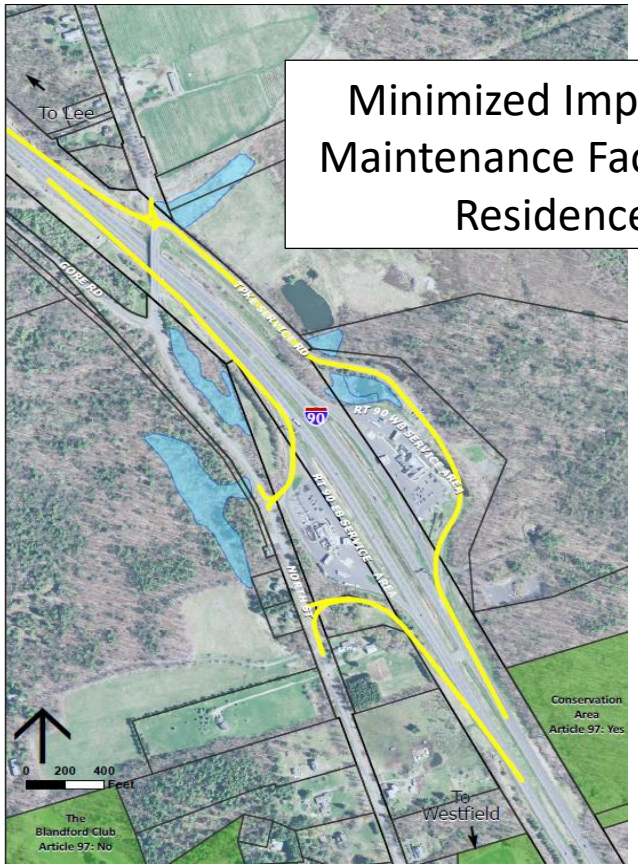
Alternatives Development:
Revised Concept Designs

Alternative 3: Blandford Service Plaza, Blandford

Original Concept



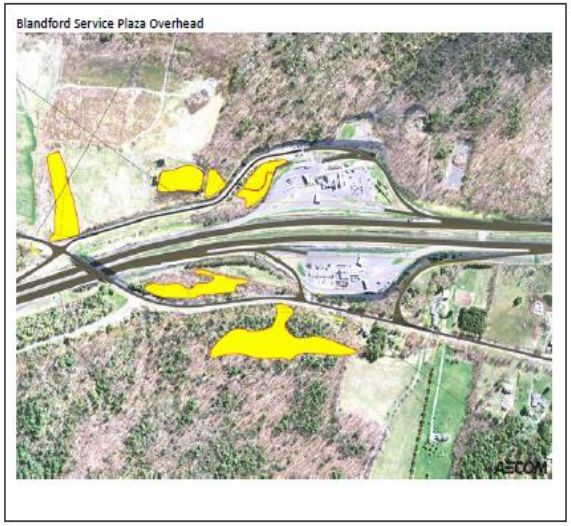
Revised Concept



Minimized Impacts on Maintenance Facility and Residences

Alternatives Development:
Revised Concept Designs

Alternative 3: Blandford Service Plaza, Blandford



DEP Wetland

Alternatives Analysis

- Environmental Considerations

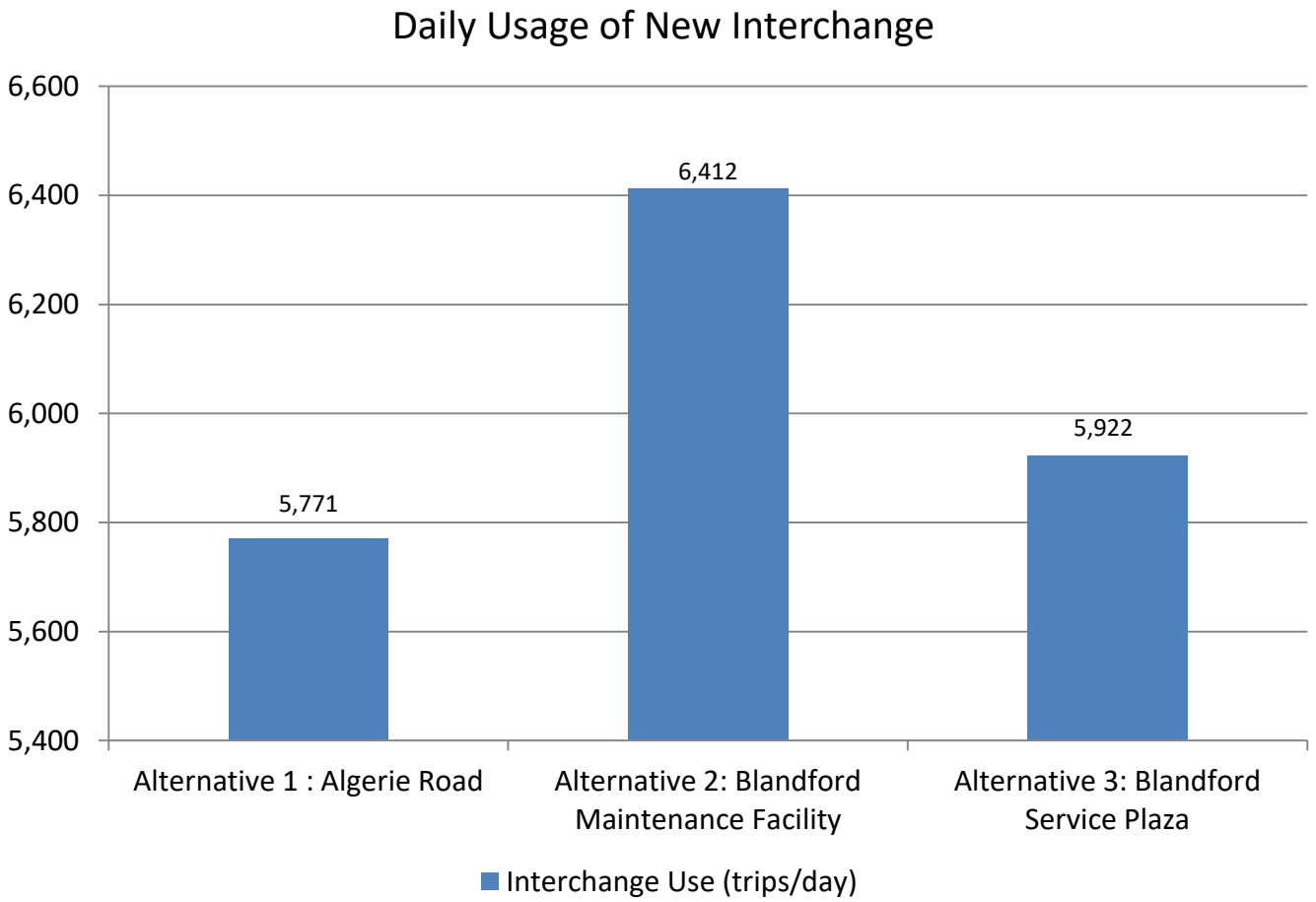
Criteria	Alternative 1 Algerie Road, Otis	Alternative 2 Blandford Maintenance Facility	Alternative 3 Blandford Service Plaza
Wetlands (SQ. FT.)	Less than 500	None	Less than 500
Water Resources (SQ. FT.)	None	180,000	105,500
Steep Slopes/Topography (SQ. FT.)	Yes	None	None
Open Space (Article 97) (SQ. FT.)	685	None	None
Natural Heritage & Endangered Species Program Impact	None	None	None
Hazardous Materials	None	None	UST associated with Plaza
Environmental Justice Impacts	Yes	None	None

- Conceptual Construction Costs

Cost*	Alternative 1 Algerie Road, Otis	Alternative 2 Blandford Maintenance Facility, Blandford	Alternative 3 Blandford Service Plaza, Blandford
Interchange	$26.3 million	$19.4 million	$20.4 million
Local Road Upgrades	$11.5 million	$10.1 million	$13.6 million
Total	**$37.8 million**	**$29.5 million**	**$34.0 million**

*Do not include ROW acquisition, environmental permitting, or engineering design

- Interchange use



- Interchange diversion

Trip Diversion with New Interchange

Interchange Location	Daily	AM Peak Hour	PM Peak Hour
Alt 1 - Exit 2 diversion	-64 trips/day	-22 trips/hour	-2 trips/hour
Alt 1 - Exit 3 diversion	-597 trips/day	-46 trips/hour	-44 trips/hour
Alt 2 - Exit 2 diversion	**-346 trips/day**	-28 trips/hour	-14 trips/hour
Alt 2 - Exit 3 diversion	-1,044 trips/day	-99 trips/hour	-75 trips/hour
Alt 3 - Exit 2 diversion	-134 trips/day	-10 trips/hour	-5 trips/hour
Alt 3 - Exit 3 diversion	**-1,433 trips/day**	-120 trips/hour	-138 trips/hour

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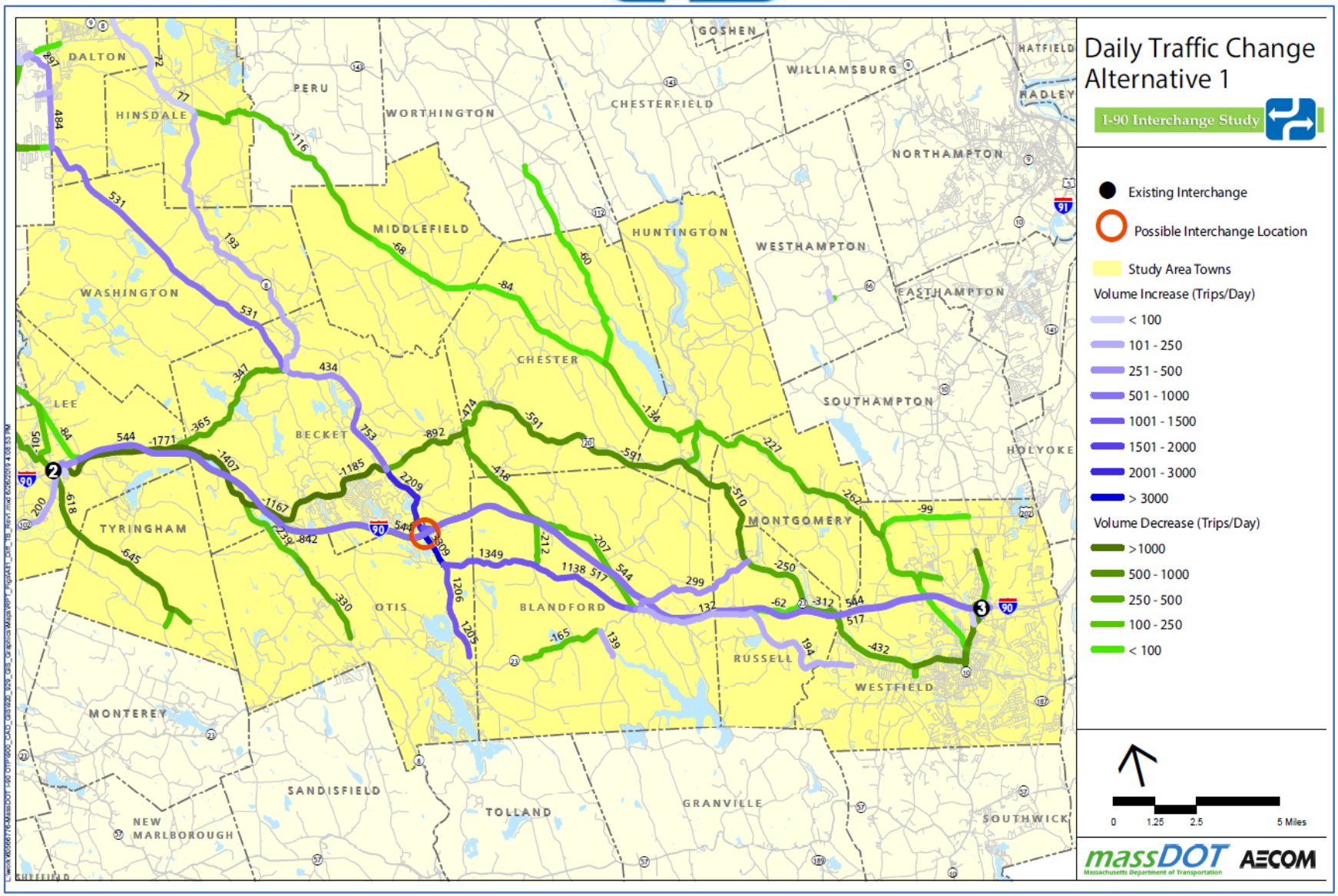
Alternatives Analysis



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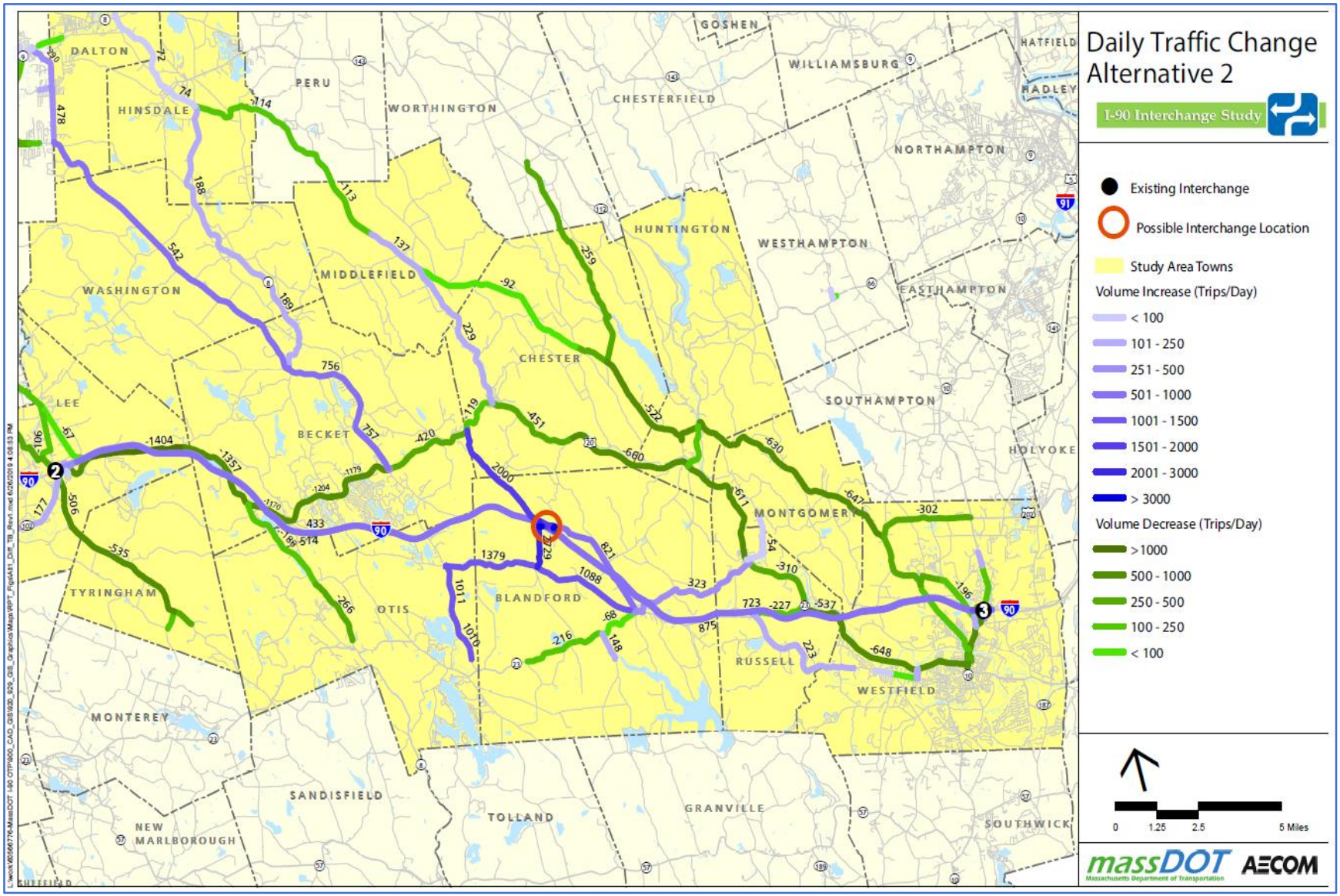
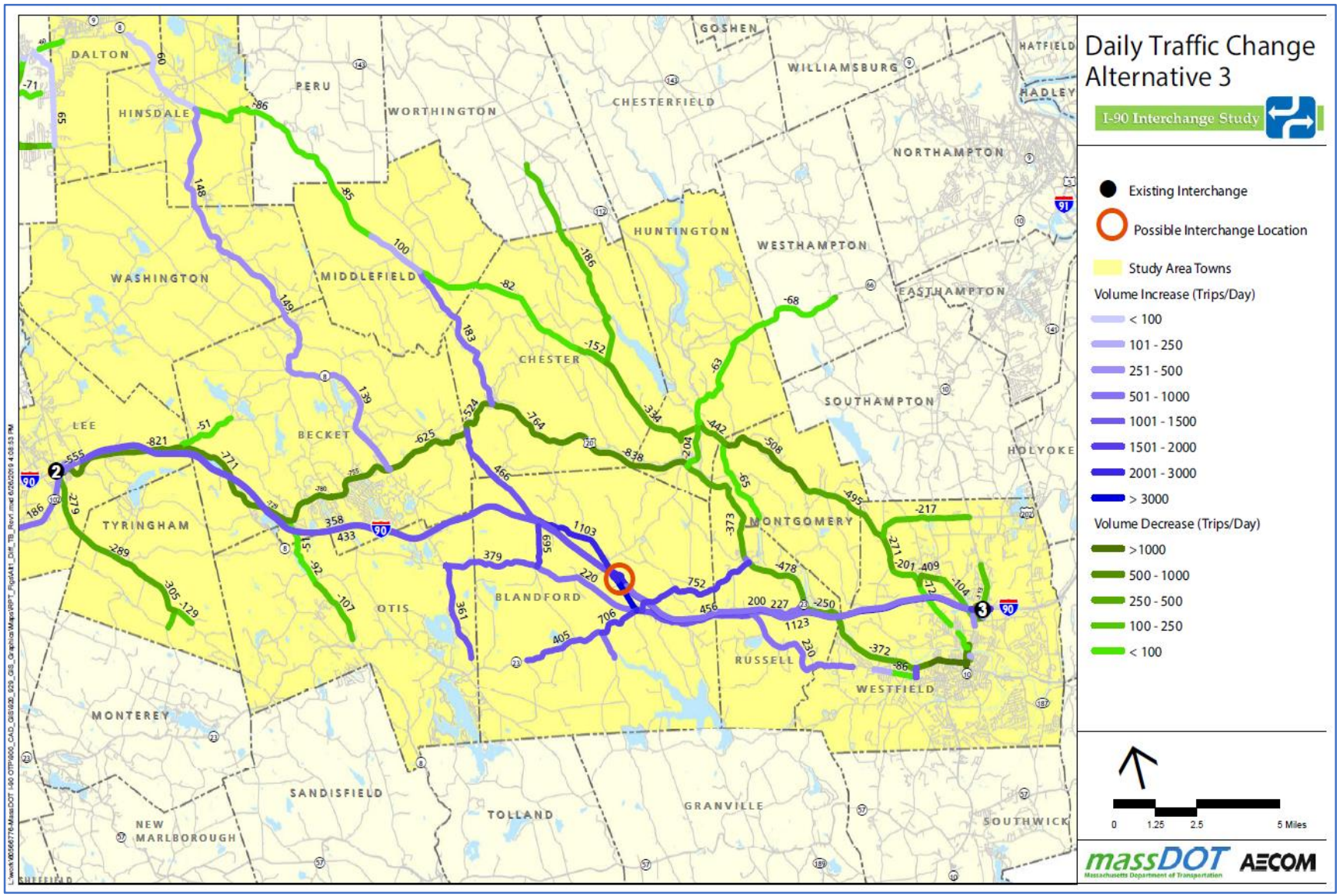
Alternatives Analysis



I-90 Interchange Study

Alternatives Analysis



- 2040 Daily Traffic Change Summary
  - Many local roadways would see little-to-no volume change
  - Portion of future trips would shift to different roads
    - Shift to get off local roads and onto I-90 sooner
      - Travel time and mileage savings
  - For all alternatives:
    - Roads immediately connecting to alternatives see increases
    - Route 20 would see decrease in overall volume study area wide
    - Notable decreases on roadways in some communities
      - Middlefield, Chester, Huntington, Montgomery, Tyringham

Network Operations: Level of Service (LOS)

- Transportation network operations at intersections are measured by Level of Service (LOS) during peak-hour conditions
- Based on delay, rating of A - F is assigned to each intersection under various future scenarios:
  - Local signalized and unsignalized intersections (no-build and build)
  - New interchanges and their intersections

LOS Criteria for Intersections

Level of Service (LOS)	Signalized Intersections Delay Per Vehicle (seconds)	Unsignalized Intersections Delay Per Vehicle (seconds)
LOS A	< 10.0	< 10.0
LOS B	10.1 to 20.0	10.1 to 15.0
LOS C	20.1 to 35.0	15.1 to 25.0
LOS D	35.1 to 55.0	25.1 to 35.0
LOS E	55.1 to 80.0	35.1 to 50.0
LOS F	> 80.0	> 50.0

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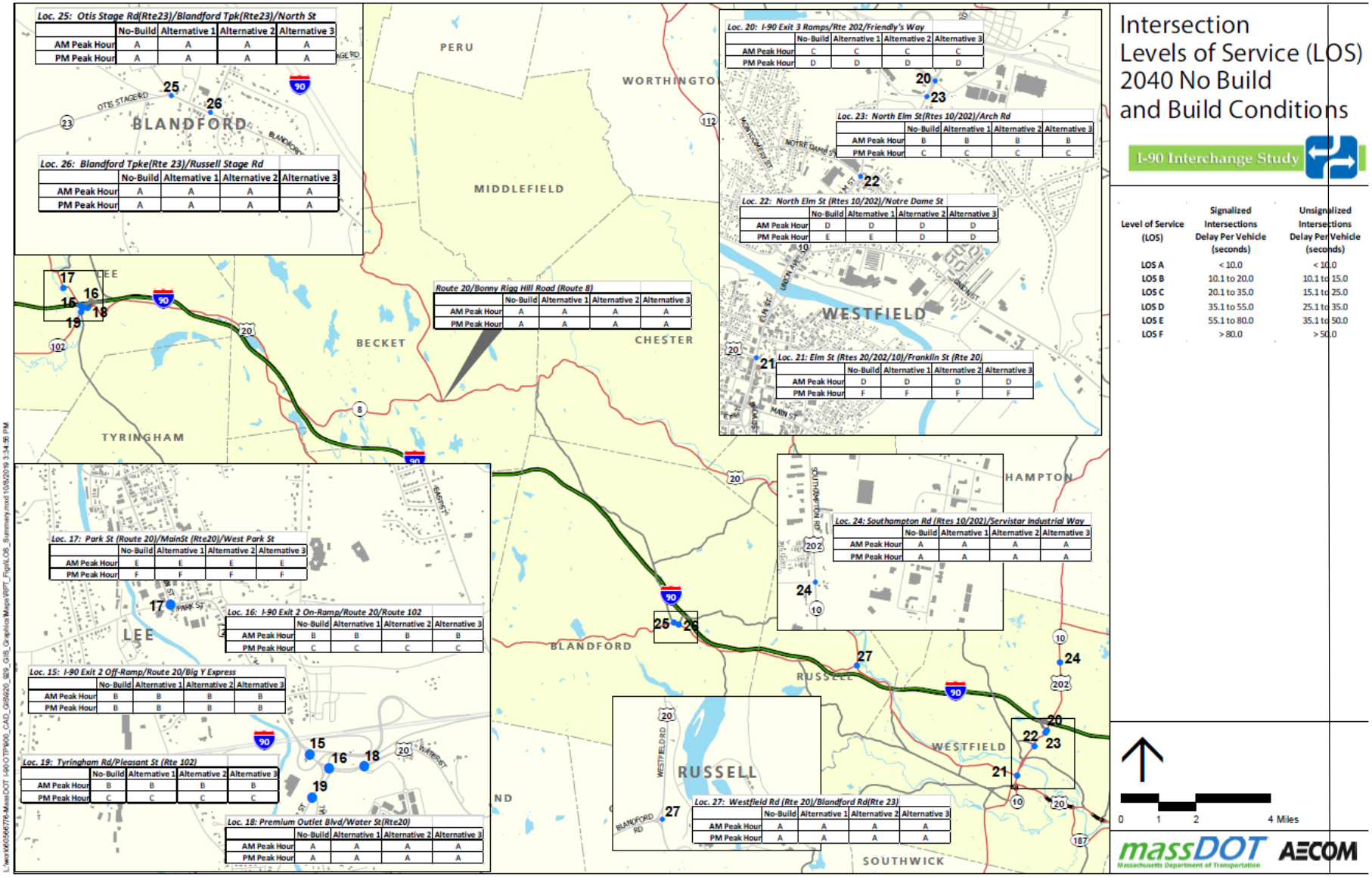
Network Operations: Level of Service (LOS)



Intersection Levels of Service (LOS) 2040 No Build and Build Conditions

I-90 Interchange Study

Level of Service (LOS)	Signalized Intersections Delay Per Vehicle (seconds)	Unsignalized Intersections Delay Per Vehicle (seconds)
LOS A	< 10.0	< 10.0
LOS B	10.1 to 20.0	10.1 to 15.0
LOS C	20.1 to 35.0	15.1 to 25.0
LOS D	35.1 to 55.0	25.1 to 35.0
LOS E	55.1 to 80.0	35.1 to 50.0
LOS F	> 80.0	> 50.0

0 1 2 4 Miles

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Network Operations: Level of Service (LOS)

Future Year (2040) New Unsignalized Intersections at New Interchanges LOS, Peak Hours (see handout)

Intersection	AM Peak LOS	PM Peak LOS
Alternative 1		
Algerie Road at I-90 EB Ramps	**A**	**A**
Left turns from Algerie Road SB	A	A
All turns from I-90 EB Off-ramp	B	B
Algerie Road at I-90 WB Ramps	**A**	**A**
Left turns from Algerie Road NB	A	A
All turns from I-90 WB Off-ramp	B	B
Alternative 2		
Old Chester Road at I-90 EB Ramps	**A**	**A**
Left turns from Old Chester Road SB	A	A
All turns from I-90 EB Off-ramp	B	B
Chester Road at I-90 WB Ramps	**A**	**A**
Left turns from Chester Road WB	A	A
All turns from I-90 WB Off-ramp	B	B
Alternative 3		
North Street at I-90 EB Ramps	A	A
Left turns from North Street EB	A	A
All turns from I-90 EB Off-ramp	B	B
North Street at I-90 WB Ramps	**A**	**A**
Left turns from North Street SB	A	A
All turns from I-90 WB Off-ramp	B	B

Network Operations: Level of Service (LOS)

- Level of Service (LOS) Summary
  - Network would operate at generally acceptable LOS
  - Most intersections and turning movements see no LOS change between 2040 Build and No-Build Conditions
  - Several merge/diverge/turning movements see improvement in LOS
  - One intersection sees an improvement
    - North Elm Street (Route 202/Route 10) at Notre Dame Street in Westfield
      - E to D in Alternatives 2 and 3

- Measured by Vehicle Miles Traveled (VMT) and Vehicle Hours Traveled (VHT) savings

Travel Time Savings by Interchange Alternative

	Alternative 1 Algerie Road Interchange	Alternative 2 Blandford Maintenance Facility Interchange	Alternative 3 Blandford Service Plaza Interchange
Total Trips	5,771 (trips/day)	6,412 trips/day	5,922 trips/day
Decrease in VHT	900 hours/day	1,146 hours/day	1,295 hours/day
Travel Time Savings	9.36 minutes/trip	10.72 minutes/trip	**13.12 minutes/trip**

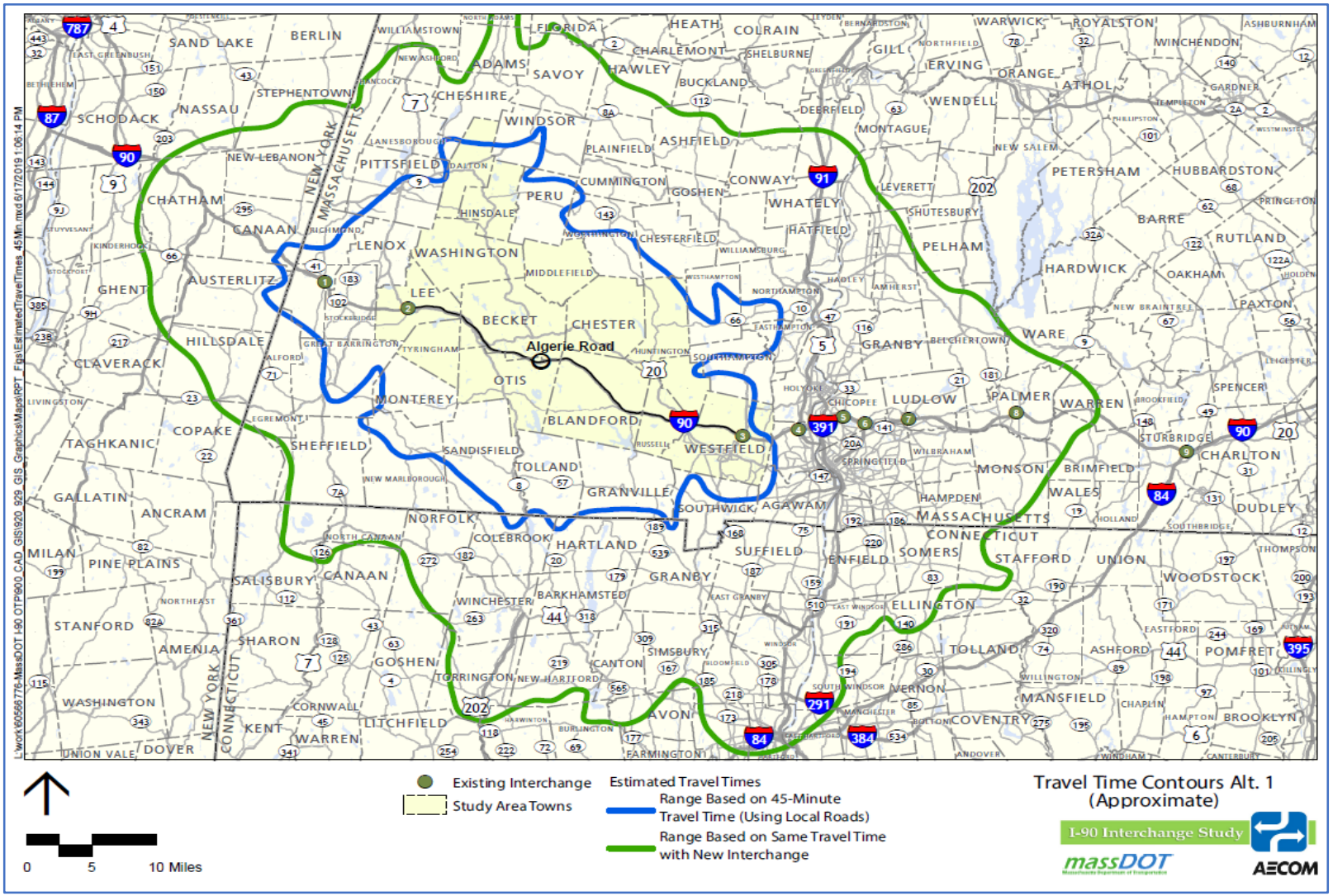
Mileage Savings by Interchange Alternative

	Alternative 1 Algerie Road Interchange	Alternative 2 Blandford Maintenance Facility Interchange	Alternative 3 Blandford Service Plaza Interchange
Total Trips	5,771 trips/day	6,412 trips/day	5,922 trips/day
Decrease in VMT	14,914 miles/day	12,874 miles/day	17,326 miles/day
Mileage Savings	2.58 miles/trip	2.01 miles/trip	**2.93 miles/trip**

I-90 Interchange Study

Connectivity and Mobility

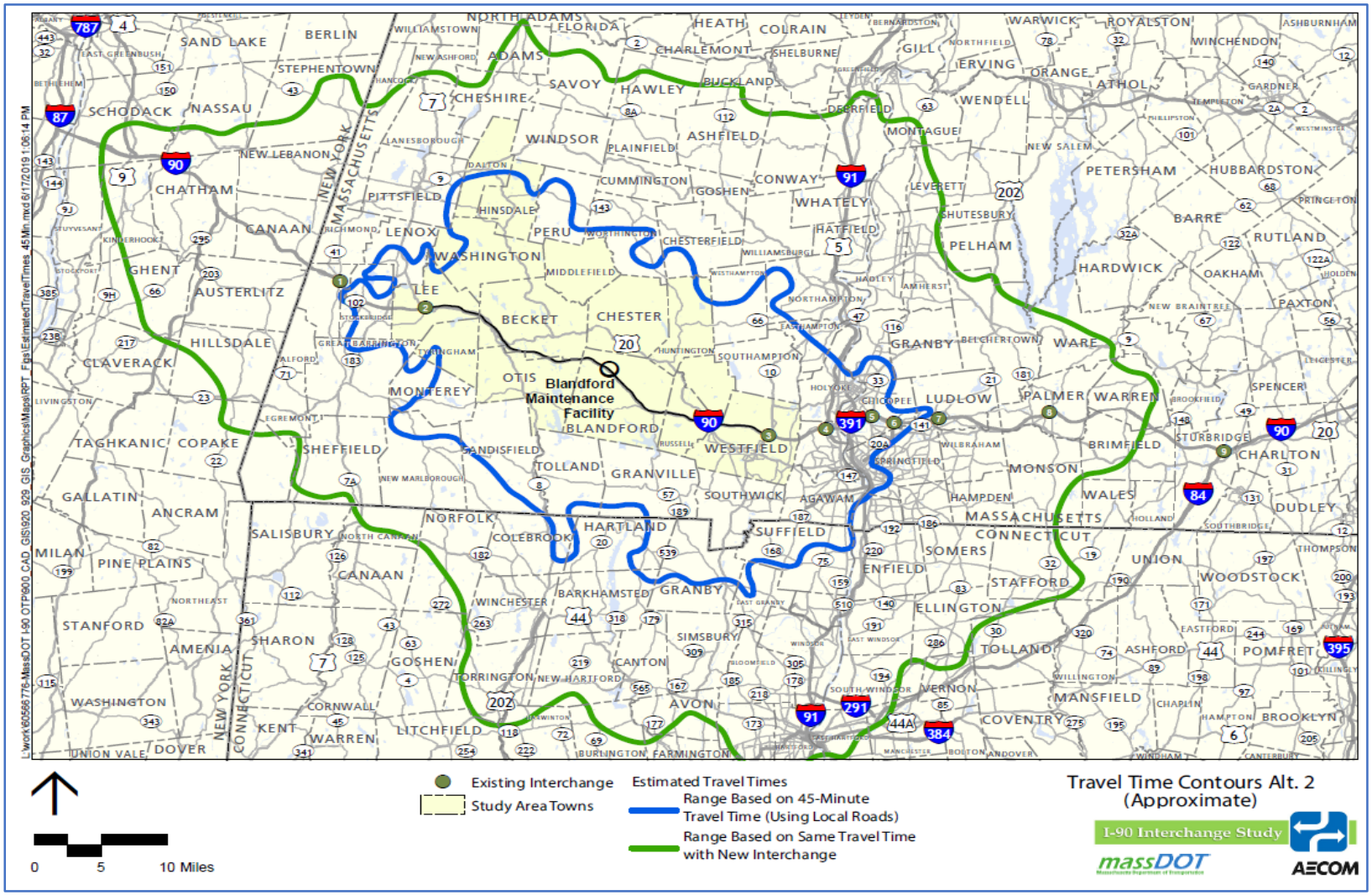
Alternative 1: Potential Change in Connectivity



I-90 Interchange Study

Connectivity and Mobility

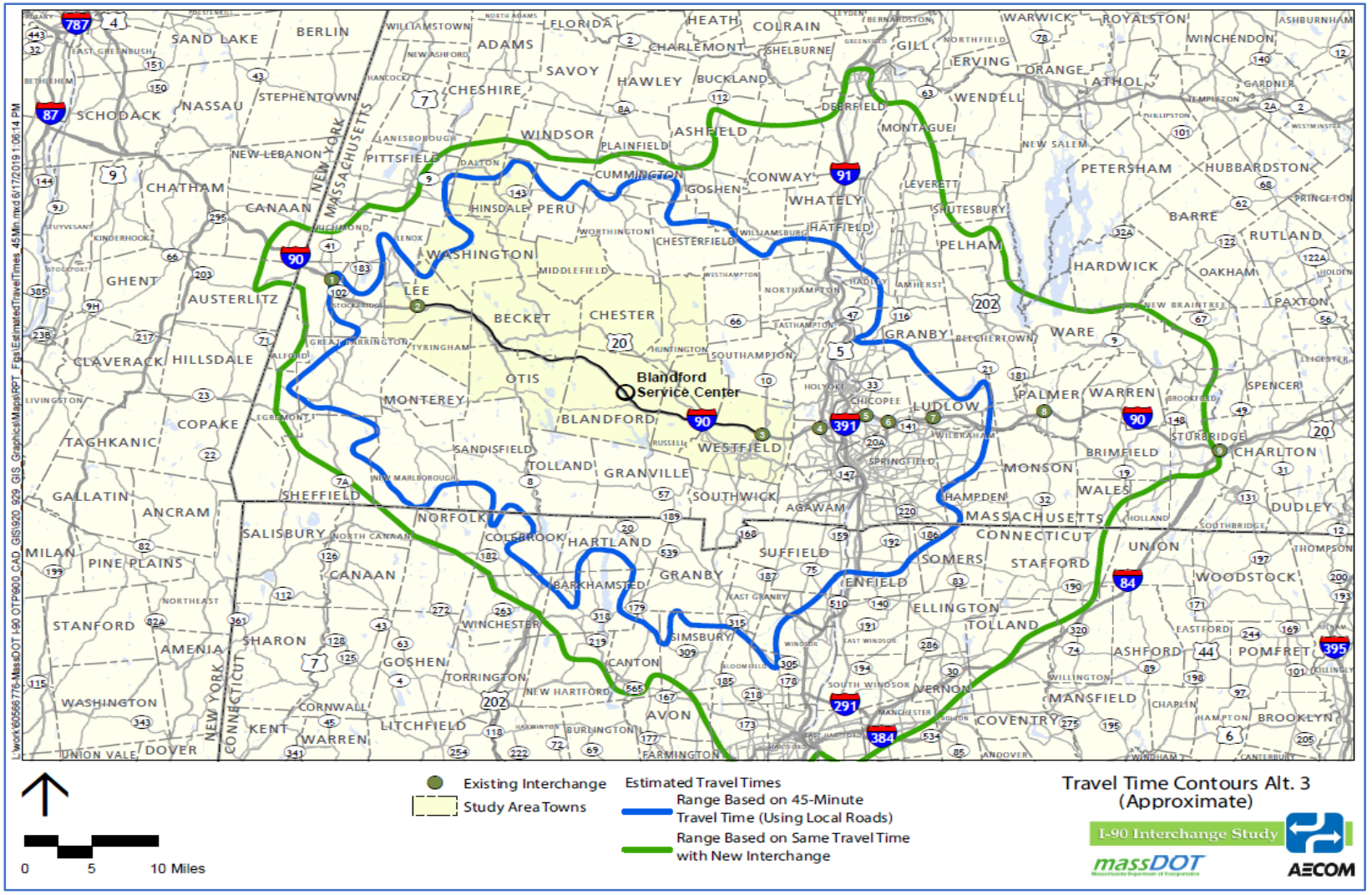
Alternative 2: Potential Change in Connectivity



I-90 Interchange Study

Connectivity and Mobility

Alternative 3: Potential Change in Connectivity



- Alternative 2 provides the largest change overall with furthest reach into New York State and Central Massachusetts

Access to Opportunities Based on Estimated Travel Time Savings (45-minute drive time)

	Population	Households	Household Income	Employment	Businesses	Business Sales
Alt. 1 Algerie Road						
Existing	140,000	58,000	$ 5,118,984,000	89,000	9,000	$ 15,743,461,000
Build	410,000	169,000	$ 13,871,639,000	257,000	25,000	$ 49,299,649,000
Difference	*270,000*	*111,000*	*$ 8,752,654,000*	*168,000*	*16,000*	*$ 33,556,188,000*
% Difference	*193%*	*191%*	*171%*	*189%*	*178%*	*213%*
Alt. 2 Blandford Maintenance						
Existing	185,000	76,000	$ 6,688,065,000	111,000	11,000	$ 21,859,321,000
Build	546,000	220,000	$ 17,425,597,000	341,000	33,000	$ 59,429,151,000
Difference	*361,000*	*144,000*	*$ 10,737,532,000*	*230,000*	*22,000*	*$ 37,569,830,000*
% Difference	*195%*	*189%*	*161%*	*207%*	*200%*	*172%*
Alt. 3 Blandford Service Center						
Existing	453,000	183,000	$ 14,256,507,000	274,000	26,000	$ 47,759,369,000
Build	628,000	251,000	$ 20,488,053,000	392,000	38,000	$ 69,470,834,000
Difference	*175,000*	*68,000*	*$ 6,231,546,000*	*117,000*	*11,000*	*$ 21,711,465,000*
% Difference	*39%*	*37%*	*44%*	*43%*	*42%*	*45%*

Economic Considerations

- Travel time savings and economic considerations
  - Study area residents would have enhanced prospects of finding jobs within a typical commuting time
  - Reduced commute times would impact the amount of time spent in more pleasurable and/or more productive activities
  - People could reach more businesses; businesses could reach more customers
  - For goods movements, businesses could reduce costs of shipping

I-90 Interchange Study

Public Health

- Study examined public health indicators, such as:
  - Noise: Number of peak hour trips within proximity of residences
  - Environmental quality: Reduced emissions and improved network operations

Potential Emissions Reductions in Study Area

Alternative	Annual Weekday VMT Reduction (miles/year)	Annual Weekday Fuel Savings (gallons/year)	Annual Weekday Greenhouse Gas Reduction (metric tons/day)*
Alternative 1: Algerie Road	4.0 million	183,000	1,627
Alternative 2: Blandford Maintenance Facility	3.5 million	158,000	1,404
Alternative 3: Blandford Service Plaza	**4.7 million**	**212,000**	**1,890**

*CO_2 equivalent
Using EPA average of 22 miles/gallon
https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator
Using 270 weekdays/year

Noise impacts at Interchange Locations

Alternative	Daily AM Peak Hour Trips	Residences within ¼ mile	Existing Noise Generators
Alternative 1: Algerie Road	457	7	Truck traffic from local quarries and summer camp activity
Alternative 2: Blandford Maintenance Facility	560	**18**	MassDOT maintenance facility functions
Alternative 3: Blandford Service Plaza	**568**	15	MassDOT service plaza facility functions

Safety Considerations

- MassDOT has design standards for all projects, which seek to ensure that improvements are optimized for safety
  - All three interchange concepts follow those standards and require no design exceptions
- Some of the local street systems would likely need modifications to accommodate bike and pedestrian facilities
  - Especially if more vehicular volume is expected

I-90 Interchange Study

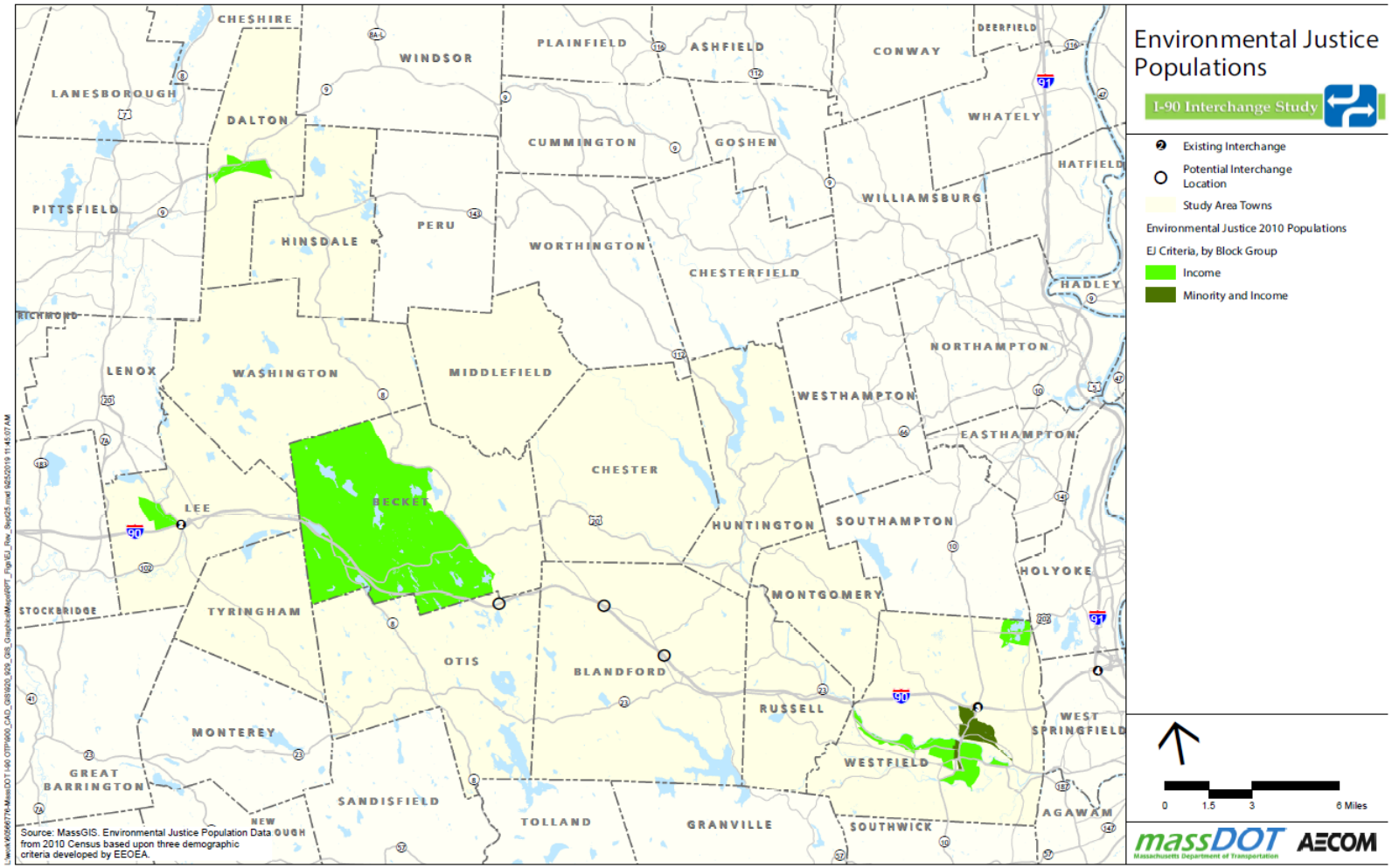
Multimodal Transportation

- It is not anticipated that a new interchange would impact existing transit
  - Transit is currently limited to Lee and Westfield
- Presents potential for new Park and Ride opportunities

I-90 Interchange Study

Community Impacts

- Alternative 1 is adjacent to an Environmental Justice (EJ) population



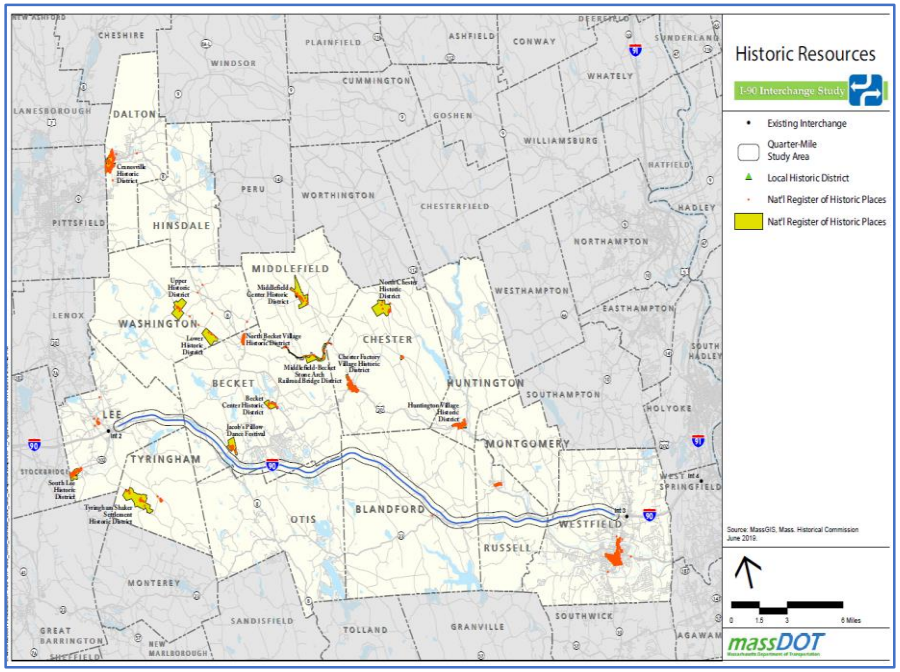
Community Impacts

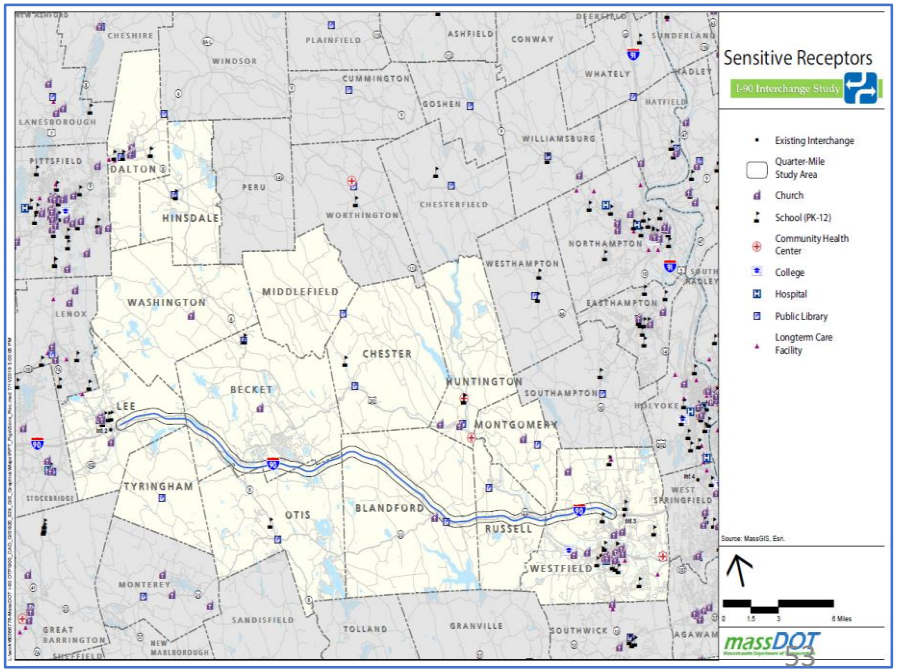
- EJ census block groups meet any of the following criteria:
  - Income: Households earn 65% or less of state median household income
  - Minority population: 25% or more of residents identify as a race other than white
  - English language isolation: 25% or more of households have no one over the age of 14 who speaks English only or very well
- It is necessary to consider the relative distribution of costs and benefits from interchange alternatives as they relate to EJ groups
- EJ consideration ensures there is no disproportionate impact to a disadvantaged population, especially when there are other alternatives
  - The Blandford alternatives do not have an impact on EJ population

I-90 Interchange Study

Community Impacts

- Each alternative is near various historical resources, sensitive receptors, or recreational resources
  - Alternative 1 is close to several in particular:
    - Girl Scout Camp, Indian Lake, Jacob's Pillow
- No specified impacts at conceptual level, but proximity must be considered

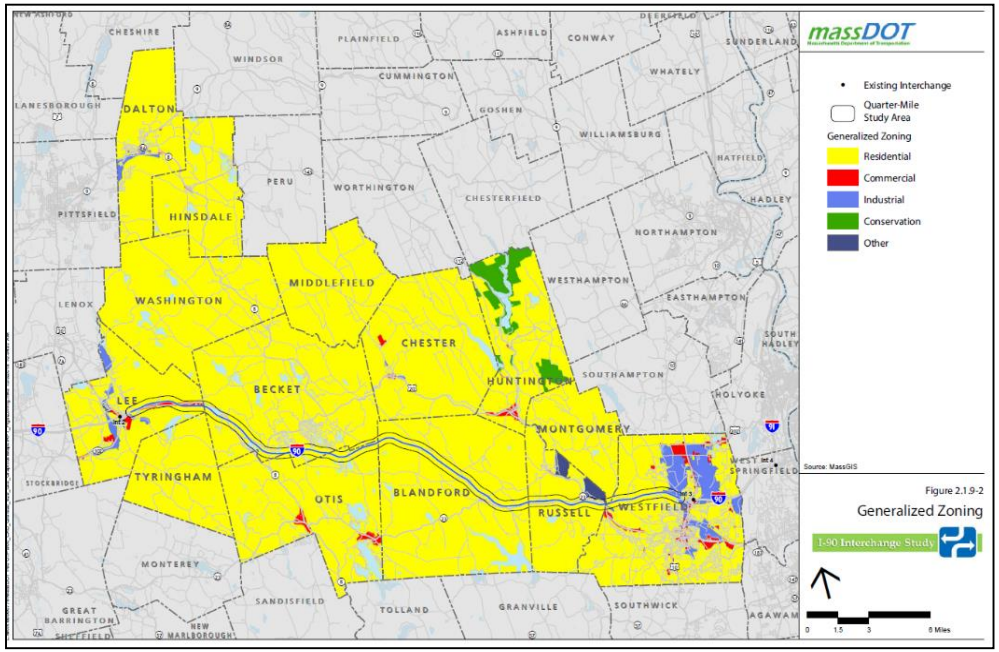




I-90 Interchange Study

Land Use

- Zoning regulation currently only allows residential development around interchange alternatives
  - Regulation changes or zoning exceptions would be needed for other land uses
- Any future land use changes would be guided by municipalities
  - MPOs are a helpful resource for zoning guidance and support



I-90 Interchange Study

Other Considerations

Conceptual Parcel Impacts

Alternative	Parcels Impacted	Right of Way Impacts (Sq. Ft.)*	Parcels with Residences	Square Footage Impacted**	Distance from Interchange to Residence (feet)
Alternative 1: Algerie Road, Otis	4 (2 MA owned)	148,856	0	17,093	N/A
Alternative 2: Blandford Maintenance Center, Blandford	4	89,936	2	91,686	465, 340
Alternative 3: Blandford Service Plaza, Blandford	2	18,119	1	20,316	242

*Reflects square footage of portion of parcel impacted by interchange footprint
**Reflects square footage of entire parcel(s) impacted by interchange footprint

Comparison of Volume Magnitude at nearby Interchanges

Interchange	Location/Route	2018 Average Daily Interchange Volumes (vehicles/day)*
Exit 1	West Stockbridge/Routes 41 and 102 (partial interchange)	765
Exit 2	Lee/Route 20	13,116
Interchange Alternative	Alternative 1/2/3	5,771/6,412/5,922
Exit 3	Westfield/Routes 10-202	20,507
Exit 4	West Springfield/I-91, I-391, Route 5	29,507

*Average Daily Interchange Volumes for Interchange Alternatives are 2040 estimates

I-90 Interchange Study

Alternatives Analysis Summary Matrix

	Alternative 1 Algerie Road, Otis	Alternative 2 Blandford Maintenance Facility	Alternative 3 Blandford Service Plaza
Proximity to Adjacent Interchanges	Exit 2: 11.8 Miles Exit 3: 17.9 Miles	Exit 2: 15.7 Miles Exit 3: 14 Miles	Exit 2: 18.4 Miles Exit 3: 11.3 Miles
Local Road Connections	Minor Collector	Local	Major Collector
Jurisdiction	Town	Town	State
National Highway System	No	No	No
Condition	Fair	Fair	Fair
Wetland Impact	Less than 500 SF	None	Less than 500 SF
Water Resource Impact	None	180,000 SF	106,600 SF
Open Space/Article 97 Impact	31,000 SF	Less than 300 SF	None
ROW Impact*	17,000 SF	92,000 SF	21,000 SF
Environmental Justice Population Impact	Yes	No	No
Potential Property Taking	4 parcels (2 MA owned)	4 parcels	2 parcels
Parcels with Residences	0	2	1
Residences within ¼ Mile	7	18	15
Daily CO^2 Emissions Reduction	6.2 metric tons	5.2 metric tons	7.0 metric tons
Average Travel Time Savings/Trip	9.36 minutes	10.72 minutes	13.12 minutes
Average Mileage Savings/Trip	2.58 miles	2.01 miles	2.93 miles
Projected Daily Use	5,771 trips	6,412 trips	5,922 trips
Estimated Conceptual Cost	$37.8 million	$29.5 million	$34 million

*Reflects square footage of entire parcel(s) impacted by interchange footprint

SF = Square Feet

Draft Study Findings

Draft Findings: Feasibility

- MassDOT tasked with examining *feasibility*

  "Lee/Westfield Turnpike Interchange Study

  SECTION 139. (a) The Massachusetts Department of Transportation shall conduct a **feasibility study relative to the establishment of an interchange on interstate highway route 90 between the existing interchanges located in the city of Westfield and the town of Lee**."

- All presented alternatives are feasible from engineering prospective
  - However, each would require environmental permitting due to identified impacts
  - Would also require substantial support from local stakeholders to move forward

- MassDOT looked beyond feasibility to develop recommendations should a project advance
  - Alternatives have variations in cost, impacts, benefits, and public opposition
  - Allows for decision making between alternatives

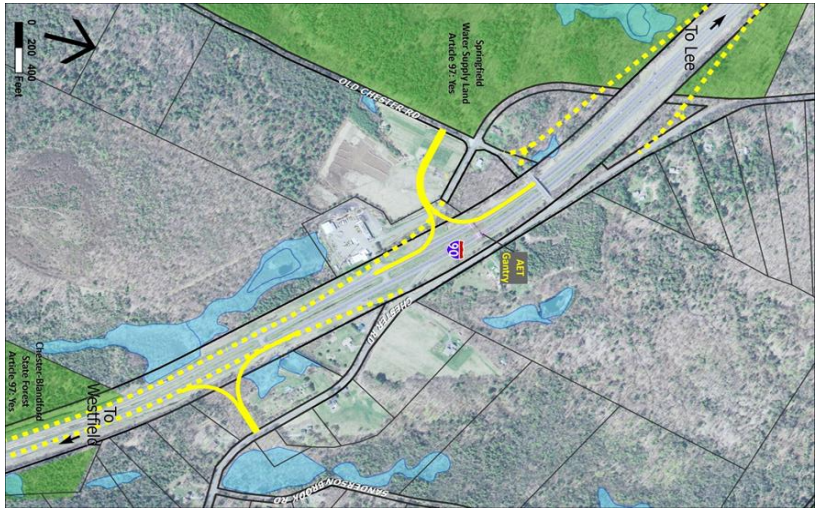
Draft Findings:
Recommendations

- **Should an interchange project move forward, Alternatives 2 and 3 in Blandford are more favorable**
- **Alternative 1 in Otis is recommended to be dismissed**
- Recommendations were discussed with Working Group on October 2, 2019
  - Working Group also advocated for dismissal of Alternative 1

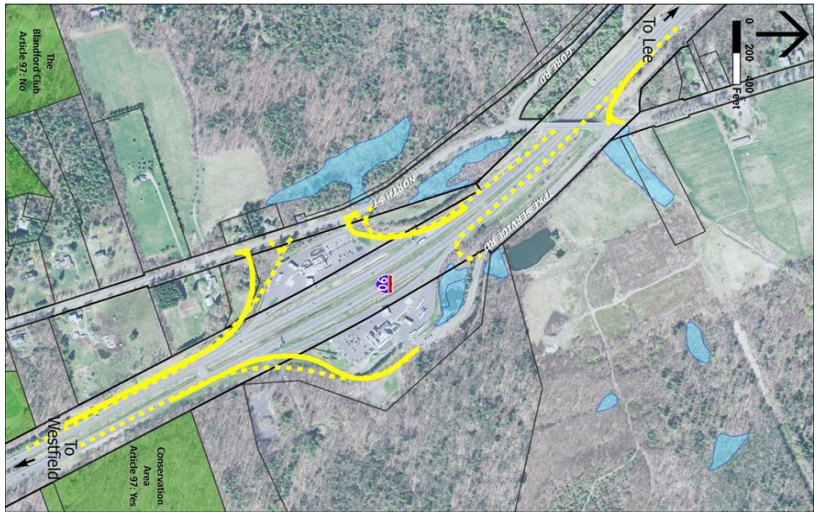
Draft Findings:
Recommendations

- **Of the three alternatives, Alternatives 2 and 3 are more favorable options for future consideration**
  - Least expensive options
  - Generally less impacts and more benefits

Alternative 2:
Blandford Maintenance Facility, Blandford



Alternative 3: Blandford
Service Center, Blandford



- **Dismissal of Alternative 1, Algerie Road in Otis**
  - Most expensive
    - $37.8 million
  - Most complex terrain
    - Steep slopes at on/off ramp locations, local roads
  - Less benefits comparatively
    - Least projected daily use
    - Least travel time savings
    - Least trip diversion from existing interchanges
    - Least improvement on network operations
  - Highest potential negative impact
    - Open Space/Article 97
    - Environmental Justice population

- Draft findings also include:
  - Potential Funding Pathways
    - Federal Funding
      - Federal Discretionary Programs
      - Metropolitan Planning Organization (MPO) Programming
    - Toll Revenue
      - Western Turnpike Toll Revenue
      - New Interchange Toll Revenue
    - State Funding
      - Commonwealth Bond Cap
  - MassDOT Project Development Process

Draft Findings: Potential Paths for Funding

- Federal Funding: Federal Discretionary Programs
  - Grants could fund an interchange project
    - INFRA: Focus is deteriorating infrastructure, national and regional economic vitality goals, and use of innovative technologies; $856 million awarded nationally in 2019
      - Grant maximum is $500 million
      - Project readiness required - construction within 18 months of award
      - INFRA share is 60%
    - BUILD: Focus is on connecting rural and urban communities, with a large regional impact. Selection criteria includes safety, economic competitiveness, quality of life aspects, and innovation; $900 million awarded nationally in 2019
      - Grant maximum is $25 million
  - **Challenge**: project would need to align with grant mission; would need to compete against other projects; project must be ready

Draft Findings: Potential Paths for Funding

- Federal Funding: MPO Programming
  - Each year, funds are allocated to MPOs based on a set formula from MARPA
    - Study area includes two MPOs: the Berkshire Regional Planning Commission and the Pioneer Valley Planning Commission
  - MPOs allocate funds towards various projects and programs using Transportation Improvement Programs (TIPs)
  - Project must be included in Regional Transportation Plan (RTP) before being programmed for funding
    - Berkshire Regional MPO listed a new interchange in study area as a project recommended for funding in its 2019 RTP Update
    - Pioneer Valley MPO listed a new interchange in study area as a visionary project in its 2019 RTP Update

Draft Findings: Potential Paths for Funding

- Federal Funding: MPO Programming (continued)
  - MPOs score and prioritize projects as input into what is included and funded in TIPs
  - **Challenge**: project would need to compete with others; would comprise a significant percentage of available funds; would likely displace other projects
    - 2020-2024 Berkshire Regional TIP includes 7 highway projects with $44 million of funding
    - 2020-2024 Pioneer Valley TIP includes 18 highway projects with $133 million of funding

Draft Findings: Potential Paths for Funding

- Challenge associated any federal funding
  - Using federal funds would require bringing the entire Western Turnpike up to federal standards
    - Shoulder width, medians, geometry
    - Financial obligation and a potential engineering challenge
  - Only elements *not* on the Turnpike could be funded without triggering the need for significant upgrades
    - Secondary highways and local roads
  - This applies to:
    - Federal Discretionary Programs
    - MPO Programming

Draft Findings: Potential Paths for Funding

- Toll Revenue: Western Turnpike Toll Revenue
  - First priority is operations and maintenance
    - Remaining funds dedicated to existing projects, then new projects
  - There is approximately $90 million available annually for existing and new projects
    - Fully programmed in the current 2020-2024 CIP
  - New projects are presented to the Highway Division's Project Review Committee (PRC), where they are scored and ranked along with other projects
  - **Challenge**: a new interchange would need to be competitive against any other new project, an interchange would require a large portion of funds available

Draft Findings: Potential Paths for Funding

- Toll Revenue: New Interchange Toll Revenue
  - Analysis conducted on potential for toll revenue from new interchange as leverage for capital costs
    - Assumes 10-year loan payback scenario, 6% interest rate
    - New gantry required to collect tolls
  - Each alternative generates enough for operations and maintenance, but not enough to satisfy loan repayment
  - **Challenge**: toll revenue would not generate enough money to pay for a new interchange

10-Year Total Revenue & Expense Summary for New Interchange in 2019 Dollars

	Alternative 1	Alternative 2	Alternative 3
Toll Revenue	$5,963,000	$6,327,000	$5,902,000
Fee and Fine Revenue	$429,000	$440,000	$392,000
Toll Collection O & M	$(4,424,000)	$(4,463,000)	$(4,394,000)
Interchange O & M	$(99,600)	$(99,600)	$(133,500)
Revenue available for Debt Service	$1,868,400	$2,204,400	$1,766,500
Total Debt Service after 10 Years	$(53,400,000)	$(42,100,000)	$(48,200,000)
Net Revenue after 10 Years	$(51,531,600)	$(39,895,600)	$(46,433,500)

- State Funding: Commonwealth Bond Cap
  - Funds many projects and programs statewide
  - A certain amount of bond proceeds are allocated for transportation
  - Existing projects take first priority, then funds are programmed for new projects as available
  - New projects are scored and ranked by committee
  - **Challenge**: funding availability, a new interchange would need to compete against many other existing and new projects

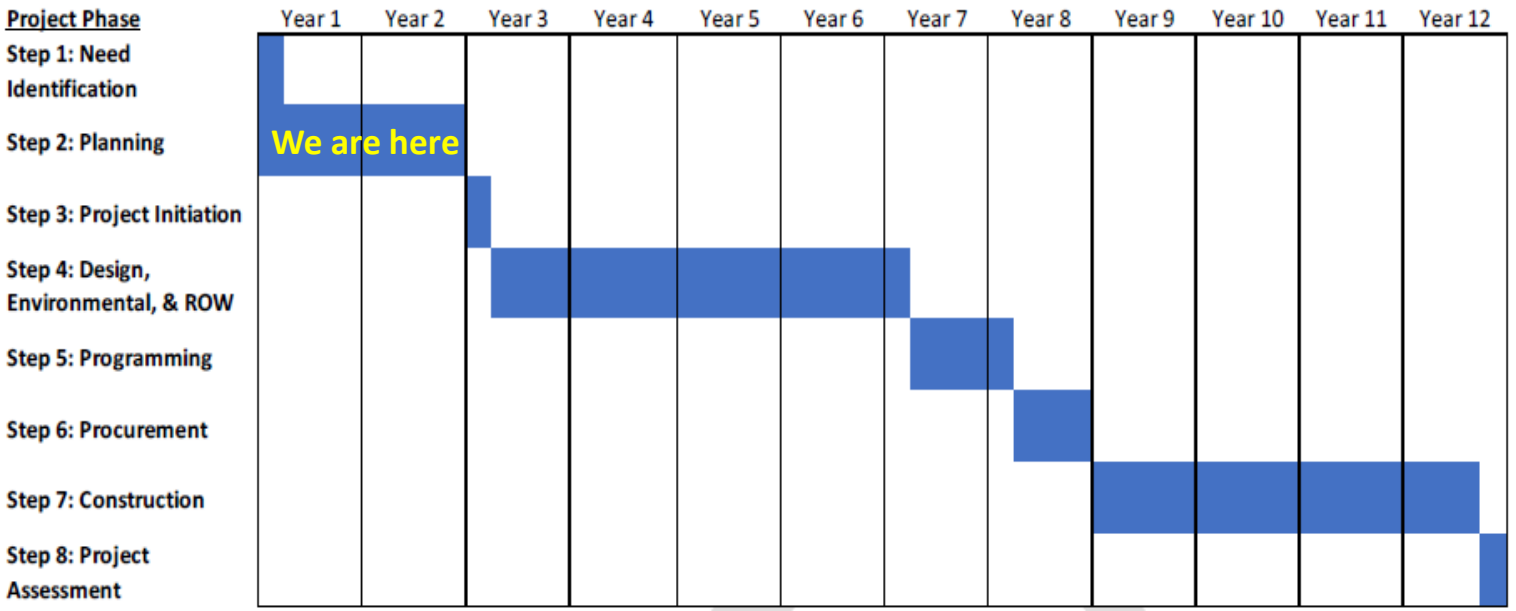
Draft Findings: Conclusion

- MassDOT has determined that a new interchange is feasible, but not without hurdles:
  - Permitting requirements must be met
  - All funding sources present challenges
- If an interchange project advanced:
  - Alternatives 2 and 3 are more favorable
  - Dismissal of Alternative 1 from future consideration
- Advancement of project at this time would require action at local level
  - Local public support, municipal support, MPO support
  - Identification of funding

Current MassDOT Project Development Timeline

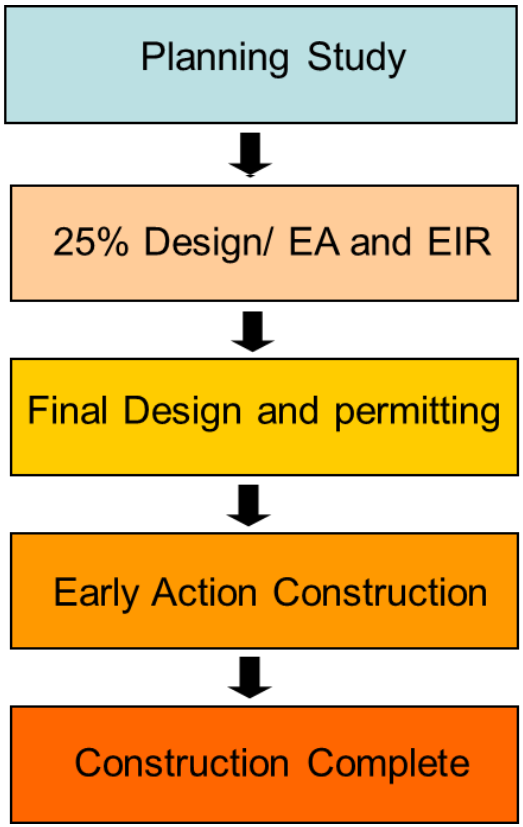
- Typical MassDOT projects of this type and size take many years to complete

Example of Current MassDOT Project Timeline



I-90 Interchange Study

Next Steps



- We are here
- Regional support would be critical to move forward
  - Municipalities
  - MPOs
- Funding path would also need to be identified in order to initiate a project

Project Schedule

- Project Schedule
  - Meeting materials will be posted online
    - Study website: www.mass.gov/i-90-interchange-study
    - Email notice will be sent when they are available
  - Completion of draft report and release for 30-day public comment period
    - Available on study webpage
    - Email notices will be sent when available
  - Finalize report, publish online, and deliver to Legislature

I-90 Interchange Study

- Comments from the Public
  - Please begin with your name and where you live

Contact:
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