

Working Group Meeting #3 September 6, 2018 3:00 PM to 5:00 PM MassDOT District 1 Conference Room 270 Main Street, Lenox





Progress since the June Working Group Meeting

- Developed and Reviewed Interchange Concepts
- Completed Traffic Counting Program
- Continued Existing Data Collection & Analysis
- Initiated Regional Transportation Network Modeling Effort





CTPS Modeling Update

- New demographic data expected in October 2018
 - Aids in development of future traffic conditions
- Important to wait for this data to have most accurate projections (population, employment, and households)



Traffic "Desire Lines"

Existing Traffic "Desire Lines"

- Last segment of traffic counting program
- Tracing the routes of traffic using Exits 2 and 3
- Order of magnitude share of traffic (AADT*) to and from study area
- Conceptualizing where people are moving

*AADT=Annual average daily traffic



Daily Traffic Counts



Regional Traffic Volumes











Traffic "Desire Lines"

I-90 Interchange Study

Conclusions

- Exit 3 in Westfield: Approximately 1/3 of all interchanging traffic (both on-and off-ramps in both EB and WB directions) is oriented to and from the study area
- Exit 2 in Lee: Approximately 1/3 of interchanging traffic entering I-90 (EB and WB on-ramps) originates from the study area, but less than 10% of traffic leaving I-90 (EB and WB off-ramps) is oriented to the study area
- These are early indications of the universe of trips that may divert to a new interchange
- Particularly at Exit 3, diversion of these traffic volumes could noticeably improve operations and reduce congestion at the ramp intersections with Route 10/202
- The difference in distribution and usage at Exit 2 could signal a travel time decision point whereby traveling west from within the study area to reach a destination east of Westfield (or in Westfield itself) is quicker than traveling east on local study area roadways





Existing Conditions

Safety Issues

- MassDOT Highway Safety Improvement Program (HSIP) High Crash Clusters within study area (latest three-year period):
 - Lee Route 20 at I-90 ramps (19 crashes) Route 20 at Park Street (11 crashes)
 - Westfield Route 10/202 at Notre Dame Street (29 crashes) Route 10/202 at Route 20 (20 crashes)
 - HSIP Bicycle Clusters at the two Westfield locations noted above

Transit

- Fixed-route transit service in Westfield and Lee
- No fixed-route or paratransit service elsewhere in study area
- Intercity bus between Albany & Springfield via Lee & Lenox





Existing Conditions

Local Truck Traffic

- Study team contacted by two local quarries
- Tonlino and Sons
 - Approximately 120 trucks a day
 - 70% north on Algerie to Route 20 and beyond, 30% south in Algerie then east on Route 23
- Williams Stone
 - Map of truck routes



Local Truck Traffic



Existing Conditions- Summary

Issues

- Relatively long distance between Exits 2 and 3
- Safety at intersections serving Exits 2 and 3
- Congestion, specifically at Exit 3
- Lack of access to/from I-90 for study area communities
- Seasonal variances in traffic

Constraints

- Topography and terrain
- Areas of sensitive environmental resources
- Distance between current exits
- Limited connecting roadways near I-90
- Varying road/bridge conditions on roadways near I-90
- Community impact concerns

Opportunities

- Travel time savings for residents and businesses
- Reduced congestion at intersections serving Exits 2 and 3
- Improved access to/from jobs/schools/businesses for study area communities
- Enhance multimodal connections throughout study area





Interchange Concepts

Interchange Concept Designs

- Held meeting in July 2018 with Highway Design to discuss current interchange concept designs
- Reviewed and redesigned several concept designs



Interchange Concepts

Interchange Concept Designs

I-90 Interchange Study

- Alternative 1 Loose Tooth Road/Route 20, Becket
- Alternative 2 Werden Road, Becket
- Alternative 3 Johnson Road, Becket
- Alternative 4 Algerie Road, Otis
- Alternative 5 Blandford Maintenance Facility, Blandford
- Alternative 6 Blandford Service Center, Blandford
- Alternative 7 Route 23, Russell



Alternative 1 Loose Tooth Rd/Route 20, Becket



Existing Conditions

- 5.2 miles to Exit 2 / 24.5 miles to Exit 3
- Surface water and wetland constraints in all four quadrants



Alternative 1 Loose Tooth Rd/Route 20, Becket



Interchange Impacts

- 10,900 Sq. Ft. Wetland Impacts
- Significant areas of > 20 % slope
- 197,112 Sq. Ft. ROW Impacts
- 25 Residences Within ¼ Mile



Alternative 1 Loose Tooth Rd/Route 20, Becket

I-90 Interchange Study



Revised Interchange Layout

- 3,435 Sq. Ft. Wetland Impacts;
 7,508 Sq. Ft. Reduction
- Minimal Areas of > 20 % slope
- 127,158 Sq. Ft. ROW Impacts;
 69,954 Sq. Ft. Reduction
- 24 Residences Within ¼ Mile



Alternative 2 Werden Road, Becket



Existing Conditions

- 7.7 miles to Exit 2 / 22 miles to Exit 3
- Wetlands, surface water in two quadrants
- Limited ROW on south side, steep slopes on north side





Alternative 2 Werden Road, Becket



Interchange Impacts

- 797 Sq. Ft. Wetland Impacts
- 302,828 Sq. Ft. ROW Impacts
- 22 Residences Within ¼ Mile
- Camp Lenox Property within 600 Ft.



Alternative 3 Johnson Road, Becket



Existing Conditions

- 9.2 miles to Exit 2 / 20.5 miles to Exit 3
- Wetlands in two quadrants
- Steep slopes
- Wildlife Management Area



Alternative 3 Johnson Road, Becket

I-90 Interchange Study



Interchange Impacts

- 29,351 Sq. Ft. Wetland Impacts
- 4,982 Sq. Ft. Article 97 Property Impacts
- 64,943 Sq. Ft. ROW Impacts
- 4 Residences Within ¼ Mile



Alternative 3 Revised Johnson Road, Becket



Revised Interchange Layout

- No Wetland Impacts
- Significant Increase in Article 97 Lands to Avoid Wetlands
- 13,739 Sq. Ft. of Additional ROW Impacts





Alternative 4 Algerie Road, Otis



Existing Conditions

- 11.8 miles to Exit 2 / 17.9 miles to Exit 3
- Wetlands in three quadrants
- Otis State Forest





Alternative 4 Algerie Road, Otis



Interchange Impacts

- 6,999 Sq. Ft. Wetland Impacts
- 48,855 Sq. Ft. Article 97 Lands (Otis State Forest)
- 1,880 Sq. Ft. ROW Impacts



Alternative 4 Algerie Road, Otis

I-90 Interchange Study



Revised Interchange Layout

- 9,204 Sq. Ft. Wetland Impacts (2,205 Sq. Ft. Increase)
- 685 Sq. Ft. Article 97 Lands (48,170 Sq. Ft. Less)
- 148,856 Sq. Ft. ROW Impacts; 146,976 Sq. Ft. Increase



Alternative 5 Blandford Maintenance Facility, Blandford



Existing Conditions

- 15.7 miles to Exit 2 / 14 miles to Exit 3
- Potential connection to Chester Road, Old Chester Road
- Wetlands on both sides of I-90
- Maintenance facility operations
- Protected open space
- Adjacent to Blandford AET Gantry



Alternative 5 Blandford Maintenance Facility, Blandford

I-90 Interchange Study



Interchange Impacts

- No Wetland Impacts
- 718,029 Sq. Ft. Impact to Surface Water Supply Zone C Protection Area
- Potential Vernal Pool Within 1000 Ft.
- 126,883 Sq. Ft. ROW Impact
- EB Off-Ramp/EB On-Ramp Allows Vehicles to By-Pass AET Gantry
- 26 Residences Within ¼ Mile



Alternative 5 Blandford Maintenance Facility, Blandford

I-90 Interchange Study



Revised Interchange Layout

- 142,689 Sq. Ft. Impact to Surface Water Supply Zone C (575,339 Sq. Ft. Decrease)
- 89,936 Sq. Ft. ROW Impacts (75,947 Sq. Ft Decrease)
- EB Off-Ramp May Impact AET Gantry, Ramp Location Constrained by Old Chester Rd. Bridge
- 18 Residences Within ¼ Mile
- No Gantry By-Pass



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Existing Conditions

- 18.4 miles to Exit 2 / 11.3 miles to Exit 3
- Some wetland areas
- Shared use of Service Center roadway infrastructure

Alternative 6

Blandford

Blandford Service Center,

- Potential connection to North Street
- Additional MassDOT property adjacent to WB Service Center
- Underground Storage Tanks at Service Plazas
- Massachusetts Department of Transportation

Alternative 6 Blandford Service Center, Blandford



Interchange Impacts

- No Wetland Impacts
- 58,355 Sq. Ft. Impact to Surface Water Supply Zone C
- 4,463 Sq. Ft. ROW Impact
- 17 Residences Within ¼ Mile
- Near Blandford Golf & Tennis
 Club



Alternative 6 Blandford Service Center, Blandford



Revised Interchange Layout

- 31,730 Sq. Ft. Zone C Protection Area (26,625 Sq. Ft. Less)
- 18,119 Sq. Ft. ROW Impacts (13,656 Sq. Ft. Increase)
- 15 Residences Within ¼ Mile
- Near Blandford Golf & Tennis Club



Alternative 7 Route 23, Russell



Existing Conditions

- 23.4 miles to Exit 2 / 6.3 miles to Exit 3
- Floodway, surface water
- Steep slopes
- Widened ROW
- Steep Grade on Existing Roadways





Alternative 7 Route 23, Russell



Interchange Impacts

- 431 Sq. Ft. Wetland Impacts
- Floodway Impacts
- Riverfront Area
- 338,821 Sq. Ft. ROW Impact
- 34 Residences Within ¼ Mile





Evaluation Criteria

- Evaluation Criteria Matrix
 - Design and Operations
 - Environmental Impacts
 - Socioeconomic Effects
 - Implementation
- Discussion



Evaluation Matrix

	Loose Tooth Road/Route 20 (Becket) MP 15.9 Rev2	Werden Road (Becket) MP 18.4	Johnson Road (Becket) MP 19.9 Rev2	Algerie Road (Otis) MP 22.5 Rev2	Blandford Maintenance Facility (Blandford) MP 26.4 Rev2	Blandford Service Center (Blandford) MP 29.1 Rev2	Route 23 (Russell) MP 31.1	
DESIGN & OPERATIONS								
INTERCHANGE TYPE/CONFIGURATION	Partial Cloverleaf	Partial Cloverleaf	Partial Cloverleaf	Diamond	Partial Cloverleaf	Diamond	Partial Cloverleaf	
PROXIMITY TO ADJACENT INTERCHANGES		ALL AND	Int 2: 9.2 Miles Int 3: 20.5 Miles	Int 2: 11.8 Miles Int 3: 17.9 Miles	Int 2: 15.7 Miles Int 3: 14 Miles	Int 2: 18.4 Miles Int 3: 11.3 Miles	NA A WAR I VI	
LOCAL ROAD CONNECTIONS	Minor Arterial	Local	Local	Minor Collector	Local	Major Collector	Minor Arterial	
Jurisdiction	State	Town	Town	Town	Town	State	State	
National Highway System	Yes	No	No	No	No	No	No	
Condition	Fair	Fair	11111444411111	Fair	Fair	Fair	Good	
ENVIRONMENTAL IMPACTS								
WETLANDS (SQ. FT.)		111114411111	None	111114411111	None	None	/////¥/////	
WATER RESOURCES (SQ. FT.)	None	None	None	None	142,689	31,730	None	
NHESP HABITAT	CVP +/- 900 Ft	None	None	None	None	None	None	
STEEP SLOPES / TOPOGRAPHY (SQ. FT.)		())) & & & & & & & & & & & & & & & & & &	/// K95, K95, K94	None	None	None	()),44,494,4744())	
OPEN SPACE (ARTICLE 97) (SQ. FT.)	None	None	())))/867689/))))		None	None	None	
CULTURAL / RECREATIONAL RESOURCES	None	Camp Lenox (600 ft)	None	None	None	Blandford Golf & Tennis Club	None	
HAZARDOUS MATERIALS	None	None	None	None	None	UST associated with Plaza	None	
SOCIOECONOMIC EFFECTS								
NOISE (RESIDENCES 1/4 MILE)	24	22	4	7	18	15	34	
RIGHT-OF-WAY IMPACTS (SQ. FT.)	////###////		78,682	///////////////////////////////////////	89,936	18,119	/////###/////	
ENVIRONMENTAL JUSTICE	Yes	Yes	Yes	No	No	No	No	
FINANCIAL & REGULATORY								
PROPERTY TAKINGS	/////	())))&&&}())))	3 Parcels	3 Parcels	2 Parcels	1 Parcel	3 Parcels	
CONSTRUCTION COST	11111#11111	111114411111	///////////////////////////////////////	\$	\$	\$	/////#//////	



- Discussion of up to 3 alternatives for further study
 - Alternative 1 Loose Tooth Road/Route 20, Becket
 - Alternative 2 Werden Road, Becket
 - Alternative 3 Johnson Road, Becket
 - Alternative 4 Algerie Road, Otis
 - Alternative 5 Blandford Maintenance Facility, Blandford
 - Alternative 6 Blandford Service Center, Blandford
 - Alternative 7 Route 23, Russell



Schedule Update

Schedule Update

						2018							2019
	February	March	April	May	June	July	August	September	October	November	December	January	February
Task 1: Study Area, Goals and Objectives, Evaluation Criteria, and Public Participation													
Study Area													
Goals and Objectives													
Evaluation Criteria													
Public Participation Plan													
Task 2: Existing Conditions, Future No-Build Conditions, and Issues Evaluation													
Existing Conditions and Data Collection													
Future Year Conditions													
Definition & Evaluation of Issues & Opportunities													
Constraints Identification													
Task 3: Alternatives Development													
Design Development													
Task 4: Alternatives Analysis													
Mobility & Accessibility Analysis													
Safety Analysis													
Environmental Effects Analysis													
Public Health Analysis													
Land Use & Economic Development Analysis													
Community Effects/Title VI/Environmental Justice Ana													
Cost Analysis													
Task 5: Recommendations													
Recommendations													
Task 6: Final Report													
Draft and Final Report													

