



UNION HILL ROAD OVER ROUTE 9 BRIDGE REPLACEMENT PUBLIC INFORMATION CENTER

APRIL 2025

PRESENTED TO: GENERAL PUBLIC

AGENDA

- 1. Project Overview
- 2. Concept Development Alternative
- 3. Project Updates
- 4. Traffic Management
- 5. Project Schedule
- 6. Questions/Comments



PROJECT TEAM

NJDOT Office of Governmentand Community Relation (OCR):Sandra O. OpokuJMT PM:Brian Strizki, PEJMT Deputy PM:Jorge Patiño Velásquez, PE, PMPStructural Engineer:Nicole Brown, PE

PROJECT OVERVIEW

PURPOSE AND NEED

Purpose

• Replace the Bridge, which is in poor condition

Need

- Improve the inadequate deck geometry (36' curb-to-curb)
- Provide 16'-6" Underclearance
- Improve the condition of the Deck and Substructure

PROJECT LOCATION



Marlboro Township, Monmouth County



US Route 9 – Looking North

US Route 9 – Looking South



West Span, Concrete-Encased Steel Beams, Deteriorated Steel Plate on Pier, Utility Conduits in South Fascia Bay West Span, Missing Concrete Encasement, Collision Damage, Deteriorated Steel Plate on Pier



East Span, Prestressed Concrete Beams, Steel Plate on Pier in Need of Repair Heavy Rusting on Steel Plate, Utility Conduits in South Fascia Bay



Signalized Intersection of Union Hill Road and Clayton Road/Ramp E

Union Hill Road looking Northeast



Aerial Utilities over Route 9 and Union Hill Road Union Hill Road – Looking West Aerial Utilities and Sidewalk

CONCEPT DEVELOPMENT ALTERNATIVE

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- 16'- 6" Vertical Underclearance
- Two-Span Structure
- Traditional Bridge Construction

CONCEPT DEVELOPMENT ALTERNATIVE

- Detour of Westbound Traffic away from Interchange
- Maintain Eastbound Traffic



WESTBOUND TRAFFIC DETOUR ALTERNATIVES

Alt 1 - PPA Detour Alternative - 3.50 miles
Alt 2 - Route 9 Detour Alternative - 2.00 miles

PROJECT UPDATES

SINGLE-SPAN ALTERNATIVE



SINGLE-SPAN ALTERNATIVE





Description

- 135' single-span multiple steel plate girder bridge
- 8 girders spaced at approximately 6'-9"



SINGLE-SPAN ALTERNATIVE

Advantages:

- Lower foundation cost for fewer piles
- Eliminates pier construction cost
- Eliminates pier piles and sheeting
- Eliminates a line of bearings
- Reduces future NBIS Bridge inspection costs
- No Impacts to NJDOT subsurface ITS line
- Minimizes MPT impacts to Route 9
- Reduces construction duration
- Reduces construction inspection costs

ACCELERATED BRIDGE CONSTRUCTION

ABC Methods

- Integral Abutment with Precast Concrete Abutment Cap
- Precast Concrete Approaches
- Precast Deck Panels

Advantages

- Shorter Construction Duration
- Reduced Impacts to Residents and Business



SINGLE SPAN - PROFILE



TRAFFIC MANAGEMENT

MPT CONCEPTS

Detour within Interchange using Two Temporary Signals



FULL DETOUR ALTERNATIVE



Westbound Traffic When raising profile west of Route 9, special consideration will need to be given to the traffic control.



not to scale

TRAFFIC ANALYSIS TEMPORARY RAMPS



TRAFFIC ANALYSIS LEVEL OF SERVICE

Prelim	inary Tra	offic Analysis	Results		
(Final Traffic Models / Result	s to be de	veloped/subr	nitted with Traffic Im	pact Report)	
Intersection			100 % Re-Routed Vehicles 150 sec. cycle Ex Rt 9 6 Lanes		
			LOS	Avg Veh Delay*	
Interesection 1 Union Hill Rd & Clayton Rd	Existing Signal	Overall	С	25	
		EB Approach	D	40	
		SB Approach	D	55	
Intersection 2 Route 9 South of Union Hill Rd (WB Crossing)	Temp. Signal	Overall	D	45	
		EB Approach	E	80	
		NB Approach	D	40	
		SB Approach	С	30	
Intersection 3 Union Hill Rd & NB Ramps	Existing Yield	Overall	ICU LOS C	n/a	
		EB Approach	Unsignalized	Unsignalized	
		NB Approach	Unsignalized	Unsignalized	
Intersection 4 Route 9 North of Union Hill Rd (EB Crossing)	Temp. Signal	Overall	С	30	
		WB Approach	D	55	*
		NB Approach	В	15	LC
		SB Approach	С	35	A
Intersection 5 Temp Ramp North of Union Hill Rd & Ramp E	Temp. Yield	Overall	ICU LOS A		E C
		WB Approach	Unsignalized		
		SB Approach	Unsignalized		- E F

The analysis conducted using Synchro demonstrates that the six-lane configuration on Route 9, with three lanes in each direction, can manage the heavy Northbound and Southbound traffic much more effectively.

* Delay is shown to the nearest 5 seconds				
LOS	Average Control Delay			
	(sec/veh)			
А	10			
В	>10 and 20			
С	>20 and 35			
D	>35 and 55			
E	>55 and 80			
F	>80			

TRAFFIC ANALYSIS PEDESTRIAN DETOUR

To accommodate Pedestrians during the bridge replacement, they will be directed to travel down Clayton Road and utilize a temporary crosswalk and signal to cross Route 9. Subsequently, pedestrians will use the existing sidewalk on Ramp B to proceed to Union Hill Road or the bus stop.



PROJECT SCHEDULE

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Preliminary Engineering Completion:

Final Design:

Construction:

Fall 2025

Fall 2025 to Fall 2028

Fall 2028 to Fall 2029

Construction is expected to begin in Fall of 2028

COMMENTS AND FEEDBACK

CONTACT US:

Sandra O. Opoku

NJDOT – Office of Government and Community Relations (OCR) 1035 Parkway Avenue Trenton, NJ 08625 Phone number: 609-963-1982 Email: <u>SandraO.Opoku@dot.nj.gov</u>