APPENDIX T

Alternatives Matrix

	1. Old Striping (4-Lane Undivided)	2. No-Build (Existing, modified road diet)	3. Basic Road Diet	4. Enhanced Road Diet	5. Narrow Roadway + Shared Use paths
Description of Alternative	Restripe between Scotch Road and Olden Avenue to return striping to pre September 2017 condition.	Maintain existing roadway configuration.	Convert 4 lane section to 2 through lanes, TWLTL and shoulders.	Convert 4 lane section to 2 through lanes, TWLTL and bicycle lanes.	Narrow roadway from Scotch Road to Olden Ave from 48' to 44' and install two 8-10' shared use sidepaths. Olden Ave to Pennington Rd will be the same as alternative 4.
Major Risks (Threats or Opportunities)	See Risk Summary	See Risk Summary	See Risk Summary	See Risk Summary	See Risk Summary
Access Impacts and Waivers	No Impacts	No Impacts	No Impacts	No Impacts	Potential issues with maintenance of shared use path as it is a higher priority than regular sidewalk.
Complete Streets Policy Compliance	No	No	Yes	Yes	Yes
Constructability	N/A	N/A	N/A	N/A	N/A
Design Exceptions	N/A	N/A	N/A	N/A	N/A
Anticipated Environmental Document	N/A	N/A	CED	CED	CED
Community Impacts (Environmental Justice)	The roadway does not currently accommodate bicycle traffic.	The roadway does not currently accommodate bicycle traffic.	Maintain access to public transportation and community facilities (schools, libraries, parks, etc.) during construction. No bicycle lanes added. No EJ issues.	Maintain access to public transportation and community facilities (schools, libraries, parks, etc.) during construction. No EJ issues.	Maintain access to public transportation and community facilities (schools, libraries, parks, etc.) during construction. No EJ issues.
Design Criteria	Urban Minor Arterial, MP 2.20-3.25: 45 MPH Design Speed, AADT = 19,161, MP 3.25-4.11: 45 MPH Design Speed, AADT = 10,414, MP 4.11-4.40: Design Speed = 40 MPH, AADT = 5,667	Urban Minor Arterial, MP 2.20-3.25: 45 MPH Design Speed, AADT = 19,161, MP 3.25-4.11: 45 MPH Design Speed, AADT = 10,414, MP 4.11-4.40: Design Speed = 40 MPH, AADT = 5,667	Urban Minor Arterial, MP 2.20-3.25: 45 MPH Design Speed, AADT = 19,161, MP 3.25-4.11: 45 MPH Design Speed, AADT = 10,414, MP 4.11-4.40: Design Speed = 40 MPH, AADT = 5,667	Urban Minor Arterial, MP 2.20-3.25: 45 MPH Design Speed, AADT = 19,161, MP 3.25-4.11: 45 MPH Design Speed, AADT = 10,414, MP 4.11-4.40: Design Speed = 40 MPH, AADT = 5,667	Urban Minor Arterial, MP 2.20-3.25: 45 MPH Design Speed, AADT = 19,161, MP 3.25-4.11: 45 MPH Design Speed, AADT = 10,414, MP 4.11-4.40: Design Speed = 40 MPH, AADT = 5,667
Railroad Crossing Impacts	None	None	None	None	None
Safety Improvement (See Safety Benefit Matrix)	None, prediced crash rates are increased	None	Road diet configuration, dedicated left turn movements at intersections, bicycle-compatable shoulders.	Road diet configuration, dedicated left turn movements at intersections, dedicated bicycle facility.	Road diet configuration, dedicated left turn movements at intersections, separated bicycle facility.
Structures	N/A	N/A	N/A	N/A	N/A
Typical Sections	Section 1: 12' Thru (x4), Section 2: 11' Thru (x4), Section 3: 15' Thru (x2)	Section 1: 12' Thru (x2), 12' TWLTL, 12' Thru, Section 2: 11' Thru (x4), Section 3: 15' Thru (x2)	Section 1: 7' shoulder, 11' Thru, 12' TWLTL, 11' Thru, 7' shoulder = 48' Total, Section 2: 5' Shoulder 11' Thru, 12' TWLTL, 11' Thru, 5' Shoulder = 44', Section 3: 4' shoulder, 11' Thru, 11' Thru, 4' Shoulder = 30'	Section 1: 5' BL, 2' Buffer, 11' Thru, 12' TWLTL, 11' Thru, 2' Buffer, 5' BL = 48' Total, Section 2: 5'BL 11' Thru, 12' TWLTL, 11' Thru, 5' BL = 44', Section 3: 5' BL, 10' Thru, 10' Thru, 5' BL = 30'	Section 1: 8-10' Shared Use Path, 5' shoulder, 11' Thru, 12' TWLTL, 11' Thru, 5' shoulder, 8-10' shared use path = 44' Total, Section 2: 5'BL 11' Thru, 12' TWLTL, 11' Thru, 5' BL = 44', Section 3: 5' BL, 10' Thru, 10' Thru, 5' BL = 30'
Additional Traffic Analysis (if needed)	N/A	N/A	N/A	N/A	N/A
Existing & Design Year Level of Service Analysis, Year of Level of Service F if before the Design Year	See intersection matrices	See intersection matrices	See intersection matrices	See intersection matrices	See intersection matrices
Estimated Construction Cost	$771,700.00	$0.00	$1,608,700.00	$1,673,500.00	$3,232,600.00
Limits of Disturbance	None	None	None	None	TBD
Environmental Constraints and Mitigation Costs	None	None	None	None	TBD
Estimated ROW (# of acquisitions, total acres)	None	None	None	None	TBD
Design Standards (NJDOT Standard Specifications, AASHTO)	NJDOT Roadway Design Manual, NJDOT Complete Streets Design Guide	NJDOT Roadway Design Manual, NJDOT Complete Streets Design Guide	NJDOT Roadway Design Manual, NJDOT Complete Streets Design Guide	NJDOT Roadway Design Manual, NJDOT Complete Streets Design Guide	NJDOT Roadway Design Manual, NJDOT Complete Streets Design Guide
ROW Impacts (areas, easements, land use & impacts, lot and block)	None	None	None	None	TBD, potentially in constrained areas of ROW to maintain shared use paths.
Signal Warrants for all Proposed Signals	N/A	N/A	N/A	Yes	N/A
Traffic Management Alternatives	None	None	Staged construction with anticipated temporary traffic and parking impacts. Maintaining sidewalk and transit access.	Staged construction with anticipated temporary traffic impacts. Maintaining sidewalk and transit access.	Staged construction with anticipated temporary traffic and parking impacts. Maintaining sidewalk and transit access.
Utilities Relocation and Associated Costs	None	None	None	None	TBD

Scotch	**A. One-Lane Roundabout w/slip lanes**	**2. Two-Lane Roundabout**	**3. Reduced Signalized Intersection**
Description of Alternative	Convert existing signalized intersection to a 1-lane roundabout with slip lanes for right-turn movements at three approaches.	Convert existing signalized intersection to a 2-lane roundabout	Modify existing signalized intersection to eliminate EB and SB slip lanes. Reduce crossing distance.
Major Risks (Threats or Opportunities)	None	None	None
Access Impacts and Waivers	Access impacts TBD when finalized geometric layout of roundabouts are determined and finalized during PE. Potential Impacts to Block 344 Lot 1.01, Bock 364 Lot 73	Access impacts TBD when finalized geometric layout of roundabouts are determined and finalized during PE. Potential Impacts to Block 344 Lot 1.01, Bock 364 Lot 73	None
Complete Streets Policy Compliance	Yes	Yes	Yes
Constructability	N/A	N/A	N/A
Design Exceptions	N/A	N/A	N/A
Anticipated Environmental Document	CED	CED	CED
Community Impacts (Environmental Justice)	Maintains access to public transportation during construction. No EJ issues.	Maintains access to public transportation during construction. No EJ issues.	Maintains access to public transportation during construction. No EJ issues.
Design Criteria	See Corridor-Wide Alternatives	See Corridor-Wide Alternatives	See Corridor-Wide Alternatives
Railroad Crossing Impacts	None	None	None
Safety Improvement (See Safety Benefit Matrix)	Converts signalized intersection to roundabout. Reduces FI crashes by 66%, PDO by 24%	Converts signalized intersection to roundabout. Reduces FI crashes by 63.3% while slightly increasing PDO crashes.	Protected/Permissive turning movements, retroreflective backplates, and removal of slip lanes reduce crashes by 13.8%
Structures	N/A	N/A	N/A
Typical Sections	See Corridor-Wide Alternatives	See Corridor-Wide Alternatives	See Corridor-Wide Alternatives
Additional Traffic Analysis (if needed)	N/A	N/A	N/A
Existing & Design Year Level of Service Analysis, Year of Level of Service F if before the Design Year	See LOS Table	See LOS Table	See LOS Table
Estimated Construction Cost	$1,143,400.00	$1,303,500.00	$412,100.00
Limits of Disturbance	TBD	TBD	None
Environmental Constraints and Mitigation Costs	Minimal, net decrease impervious	Minimal, net decrease impervious	None
Estimated ROW (# of acquisitions, total acres)	Approx 4500 sq ft from Credit Union, 3500 sq ft from shopping center, potentially sidewalk buffer at Wawa	Approx 4500 sq ft from Credit Union, 3500 sq ft from shopping center, potentially sidewalk buffer at Wawa	None
Design Standards (NJDOT Standard Specifications, AASHTO)	NJDOT Roadway Design Manual, FHWA Roundabouts: An Informational Guide	NJDOT Roadway Design Manual, FHWA Roundabouts: An Informational Guide	NJDOT Roadway Design Manual
ROW Impacts (areas, easements, land use & impacts, lot and block)	ROW impacts TBD when finalized geometric layout of roundabouts are determined and finalized during PE. Potential Impacts to Block 343 Lot 1.02, Block 344 Lot 1.01	ROW impacts TBD when finalized geometric layout of roundabouts are determined and finalized during PE. Potential Impacts to Block 343 Lot 1.02, Block 344 Lot 1.01	None
Signal Warrants for all Proposed Signals	N/A	N/A	Yes
Traffic Management Alternatives	Staged construction with anticipated temporary traffic impacts. Maintaining sidewalk and transit access.	Staged construction with anticipated temporary traffic impacts. Maintaining sidewalk and transit access.	Staged construction with anticipated temporary traffic impacts. Maintaining sidewalk and transit access.
Utilities Relocation and Associated Costs	TBD (Moderate-High)	TBD (Moderate-High)	TBD (Low-Moderate)

Lower Ferry	**A. Two-Lane Roundabout**	**B. Signal Improvements 1**	**C. Signal Improvments 2**
Description of Alternative	Convert existing signalized intersection to a 2-lane roundabout (2-lanes at major approaches only)	Provide protected-permissive left-turn plasing, stripe a SB dedicated left-turn lane	Provide protected-permissive left-turn plasing, stripe a SB dedicated left-turn lane, install EB right-turn lane
Major Risks (Threats or Opportunities)	Potential impacts to design vehicle. Truck movements may be restricted. Access impacts TBD when finalized geometric layout of roundabouts are determined and finalized during PE. Potential Impacts to Block 320 Lot 1 (NJDOT HQ), Block 358 Lot 17, Block 263 Lot 6	None	None
Access Impacts and Waivers	Access to NJDOT MOB western driveway and SONOCO gas station impacted	None	Access to NJDOT MOB western driveway and SONOCO gas station impacted
Complete Streets Policy Compliance	Yes	Yes	Yes
Constructability	N/A	N/A	N/A
Design Exceptions	N/A	N/A	N/A
Anticipated Environmental Document	CED	None	CED
Community Impacts (Environmental Justice)	Maintains access to public transportation during construction. No EJ issues.	Maintains access to public transportation during construction. No EJ issues.	Maintains access to public transportation during construction. No EJ issues.
Design Criteria	See Corridor-Wide Alternatives	See Corridor-Wide Alternatives	See Corridor-Wide Alternatives
Railroad Crossing Impacts	None	None	None
Safety Improvement (See Safety Benefit Matrix)	Converts signalized intersection to roundabout	Protected/Permissive turning movements, dedicated Left-turn lane, retroreflective backplates, and removal of slip lanes.	Protected/Permissive turning movements, retroreflective backplates, and removal of slip lanes.
Structures	N/A	N/A	N/A
Typical Sections	See Corridor-Wide Alternatives	See Corridor-Wide Alternatives	See Corridor-Wide Alternatives
Additional Traffic Analysis (if needed)	N/A	N/A	N/A
Existing & Design Year Level of Service Analysis, Year of Level of Service F if before the Design Year	See LOS Table	See LOS Table	See LOS Table
Estimated Construction Cost	$1,081,400.00	$513,600.00	$556,700.00
Limits of Disturbance	TBD	TBD	None
Environmental Constraints and Mitigation Costs	Minimal, net decrease impervious	Minimal, net decrease impervious	None
Estimated ROW (# of acquisitions, total acres)	1 at NJDOT 3 Minor (<2000sf) (ROW up to existing sidewalk)	None	1 minor (<2000sf) (ROW up to sidewalk)
Design Standards (NJDOT Standard Specifications, AASHTO)	NJDOT Roadway Design Manual, FHWA Roundabouts: An Informational Guide	NJDOT Roadway Design Manual	NJDOT Roadway Design Manual
ROW Impacts (areas, easements, land use & impacts, lot and block)	ROW impacts TBD when finalized geometric layout of roundabouts are determined and finalized during PE. Potential Impacts to Block 320 Lot 1 (NJDOT HQ), Block 358, Lot 17	None	Minor acquisition needed up to existing sidewalk at SONOCO gas station (Block 358, Lot 17)
Signal Warrants for all Proposed Signals	N/A	Yes	Yes
Traffic Management Alternatives	Staged construction with anticipated temporary traffic impacts. Maintaining sidewalk and transit access.	Staged construction with anticipated temporary traffic impacts. Maintaining sidewalk and transit access.	Staged construction with anticipated temporary traffic impacts. Maintaining sidewalk and transit access.
Utilities Relocation and Associated Costs	TBD (Moderate)	None	TBD (Low)

Farrell	**A. Two-Lane Roundabout**	**B. Signal Improvements**
Description of Alternative	Convert existing signalized intersection to a 2-lane roundabout	Eliminate NB slip lane, transition to dedicated left turn lanes from road diet alternative
Major Risks (Threats or Opportunities)	None	None
Access Impacts and Waivers	Access impacts TBD when finalized geometric layout of roundabouts are determined and finalized during PE. Potential Impacts to Block 320 Lot 11 (NJDOT Property)	None
Complete Streets Policy Compliance	Yes	Yes
Constructability	N/A	N/A
Design Exceptions	N/A	N/A
Anticipated Environmental Document	CED	None
Community Impacts (Environmental Justice)	Maintains access to public transportation during construction. No EJ issues.	Maintains access to public transportation during construction. No EJ issues.
Design Criteria	See Corridor-Wide Alternatives	See Corridor-Wide Alternatives
Railroad Crossing Impacts	None	None
Safety Improvement (See Safety Benefit Matrix)	Converts signalized intersection to roundabout. Reduces FI crashes by 63.3% while slightly increasing PDO crashes.	Protected/Permissive turning movements, dedicated Left-turn lane, retroreflective backplates, and removal of slip lanes.
Structures	N/A	N/A
Typical Sections	See Corridor-Wide Alternatives	See Corridor-Wide Alternatives
Additional Traffic Analysis (if needed)	N/A	N/A
Existing & Design Year Level of Service Analysis, Year of Level of Service F if before the Design Year	See LOS Table	See LOS Table
Estimated Construction Cost	$812,600.00	$556,700.00
Limits of Disturbance	TBD	None
Environmental Constraints and Mitigation Costs	Minimal, net decrease impervious	None
Estimated ROW (# of acquisitions, total acres)	TBD	None
Design Standards (NJDOT Standard Specifications, AASHTO)	NJDOT Roadway Design Manual, FHWA Roundabouts: An Informational Guide	NJDOT Roadway Design Manual
ROW Impacts (areas, easements, land use & impacts, lot and block)	ROW impacts TBD when finalized geometric layout of roundabouts are determined and finalized during PE. Potential Impacts to Block 320 Lot 11 (NJDOT Property), Block 320 Lot 13	None
Signal Warrants for all Proposed Signals	N/A	Yes
Traffic Management Alternatives	Staged construction with anticipated temporary traffic impacts. Maintaining sidewalk and transit access.	Staged construction with anticipated temporary traffic impacts. Maintaining sidewalk and transit access.
Utilities Relocation and Associated Costs	TBD (Moderate-High)	TBD

Lower Ferry	**A. Two-Lane Roundabout**	**B. Signal Improvements**
Description of Alternative	Convert existing signalized intersection to a 2-lane roundabout	Eliminate EB slip lane, transition to dedicated left turn lanes from road diet alternative
Major Risks (Threats or Opportunities)	Potential impacts to design vehicle. Truck movements may be restricted	None
Access Impacts and Waivers	Access impacts TBD when finalized geometric layout of roundabouts are determined and finalized during PE. Potential Impacts to Block 320 Lot 15, Block 488 Lot 2, Block 445 Lot 34, Block 320 Lot 48	None
Complete Streets Policy Compliance	Yes	Yes
Constructability	N/A	N/A
Design Exceptions	N/A	N/A
Anticipated Environmental Document	CED	None
Community Impacts (Environmental Justice)	Maintains access to public transportation during construction. No EJ issues.	Maintains access to public transportation during construction. No EJ issues.
Design Criteria	See Corridor-Wide Alternatives	See Corridor-Wide Alternatives
Railroad Crossing Impacts	None	None
Safety Improvement (See Safety Benefit Matrix)	Converts signalized intersection to roundabout	Protected/Permissive turning movements, dedicated Left-turn lane, retroreflective backplates, and removal of slip lanes.
Structures	N/A	N/A
Typical Sections	See Corridor-Wide Alternatives	See Corridor-Wide Alternatives
Additional Traffic Analysis (if needed)	N/A	N/A
Existing & Design Year Level of Service Analysis, Year of Level of Service F if before the Design Year	See LOS Table	See LOS Table
Estimated Construction Cost	$1,412,600.00	$537,600.00
Limits of Disturbance	TBD	TBD
Environmental Constraints and Mitigation Costs	Minimal, mostly impacting impervious	Minimal, net decrease impervious
Estimated ROW (# of acquisitions, total acres)	Block 488, Lot 2	None
Design Standards (NJDOT Standard Specifications, AASHTO)	NJDOT Roadway Design Manual, FHWA Roundabouts: An Informational Guide	NJDOT Roadway Design Manual
ROW Impacts (areas, easements, land use & impacts, lot and block)	ROW impacts TBD when finalized geometric layout of roundabouts are determined and finalized during PE. Potential Impacts to Block 320 Lot 15, Block 488 Lot 2	None
Signal Warrants for all Proposed Signals	N/A	Yes
Traffic Management Alternatives	Staged construction with anticipated temporary traffic impacts. Maintaining sidewalk and transit access.	Staged construction with anticipated temporary traffic impacts. Maintaining sidewalk and transit access.
Utilities Relocation and Associated Costs	TBD (Moderate)	None

Parkside	**A. Signal Improvements**
Description of Alternative	Eliminate WB slip lane, transition to dedicated left turn lanes from road diet alternative
Major Risks (Threats or Opportunities)	None
Access Impacts and Waivers	None
Complete Streets Policy Compliance	Yes
Constructability	N/A
Design Exceptions	N/A
Anticipated Environmental Document	None
Community Impacts (Environmental Justice)	Maintains access to public transportation during construction. No EJ issues.
Design Criteria	See Corridor-Wide Alternatives
Railroad Crossing Impacts	None
Safety Improvement (See Safety Benefit Matrix)	Protected/Permissive turning movements, dedicated Left-turn lane, retroreflective backplates, and removal of slip lanes.
Structures	N/A
Typical Sections	See Corridor-Wide Alternatives
Additional Traffic Analysis (if needed)	N/A
Existing & Design Year Level of Service Analysis, Year of Level of Service F if before the Design Year	See LOS Table
Estimated Construction Cost	$446,000.00
Limits of Disturbance	None
Environmental Constraints and Mitigation Costs	None
Estimated ROW (# of acquisitions, total acres)	None
Design Standards (NJDOT Standard Specifications, AASHTO)	NJDOT Roadway Design Manual
ROW Impacts (areas, easements, land use & impacts, lot and block)	None
Signal Warrants for all Proposed Signals	Yes
Traffic Management Alternatives	Staged construction with anticipated temporary traffic impacts. Maintaining sidewalk and transit access.
Utilities Relocation and Associated Costs	TBD

Pennington	**A. Peanut Roundabout**	**2. Traditional Roundabout**	**3. Reduced Signalized Intersection**
Description of Alternative	Convert existing signalized intersection to a 1-lane, modified roundabout	Convert existing signalized intersection to a 1-lane roundabout with slip lanes for right-turn movements at three approaches.	Modify existing signalized intersection to improve turning movements and pedestrian crossing distances
Major Risks (Threats or Opportunities)	None	None	None
Access Impacts and Waivers	Access impacts TBD when finalized geometric layout of roundabouts are determined and finalized during PE. Potential Impacts to Block 61 Lot 8, Block 33501 Lots 54 and 19	Access impacts TBD when finalized geometric layout of roundabouts are determined and finalized during PE. Potential Impacts to Block 61 Lot 8, Block 33501 Lots 54 and 19	None
Complete Streets Policy Compliance	Yes	Yes	Yes
Constructability	N/A	N/A	N/A
Design Exceptions	N/A	N/A	N/A
Anticipated Environmental Document	CED	CED	None
Community Impacts (Environmental Justice)	Maintains access to public transportation during construction. No EJ issues.	Maintains access to public transportation during construction. No EJ issues.	Maintains access to public transportation during construction. No EJ issues.
Design Criteria	See Corridor-Wide Alternatives	See Corridor-Wide Alternatives	See Corridor-Wide Alternatives
Railroad Crossing Impacts	None	None	None
Safety Improvement (See Safety Benefit Matrix)	Converts signalized intersection to roundabout.	Converts signalized intersection to roundabout.	Protected/Permissive turning movements, retroreflective backplates.
Structures	N/A	N/A	N/A
Typical Sections	See Corridor-Wide Alternatives	See Corridor-Wide Alternatives	See Corridor-Wide Alternatives
Additional Traffic Analysis (if needed)	N/A	N/A	N/A
Existing & Design Year Level of Service Analysis, Year of Level of Service F if before the Design Year	See LOS Table	See LOS Table	See LOS Table
Estimated Construction Cost	$1,122,600.00	$1,559,500.00	$405,800.00
Limits of Disturbance	TBD	TBD	None
Environmental Constraints and Mitigation Costs	Minimal	Minimal	None
Estimated ROW (# of acquisitions, total acres)	Impacts to abandoned lots only.	Impacts abandoned buildings, TBD upon final placement.	None
Design Standards (NJDOT Standard Specifications, AASHTO)	NJDOT Roadway Design Manual, FHWA Roundabouts: An Informational Guide	NJDOT Roadway Design Manual, FHWA Roundabouts: An Informational Guide	NJDOT Roadway Design Manual
ROW Impacts (areas, easements, land use & impacts, lot and block)	ROW impacts TBD when finalized geometric layout of roundabouts are determined and finalized during PE. Potential Impacts to Block 61 Lot 8	ROW impacts TBD when finalized geometric layout of roundabouts are determined and finalized during PE.	None
Signal Warrants for all Proposed Signals	N/A	N/A	Yes
Traffic Management Alternatives	Staged construction with anticipated temporary traffic impacts. Maintaining sidewalk and transit access.	Staged construction with anticipated temporary traffic impacts. Maintaining sidewalk and transit access.	Staged construction with anticipated temporary traffic impacts. Maintaining sidewalk and transit access.
Utilities Relocation and Associated Costs	TBD (Moderate)	TBD (Moderate)	TBD (Low)