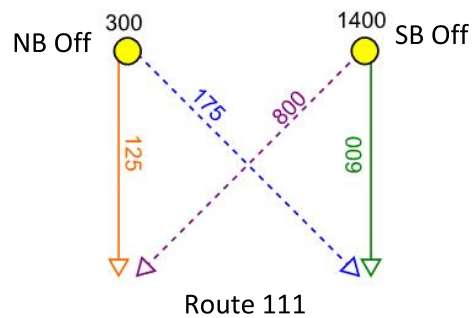
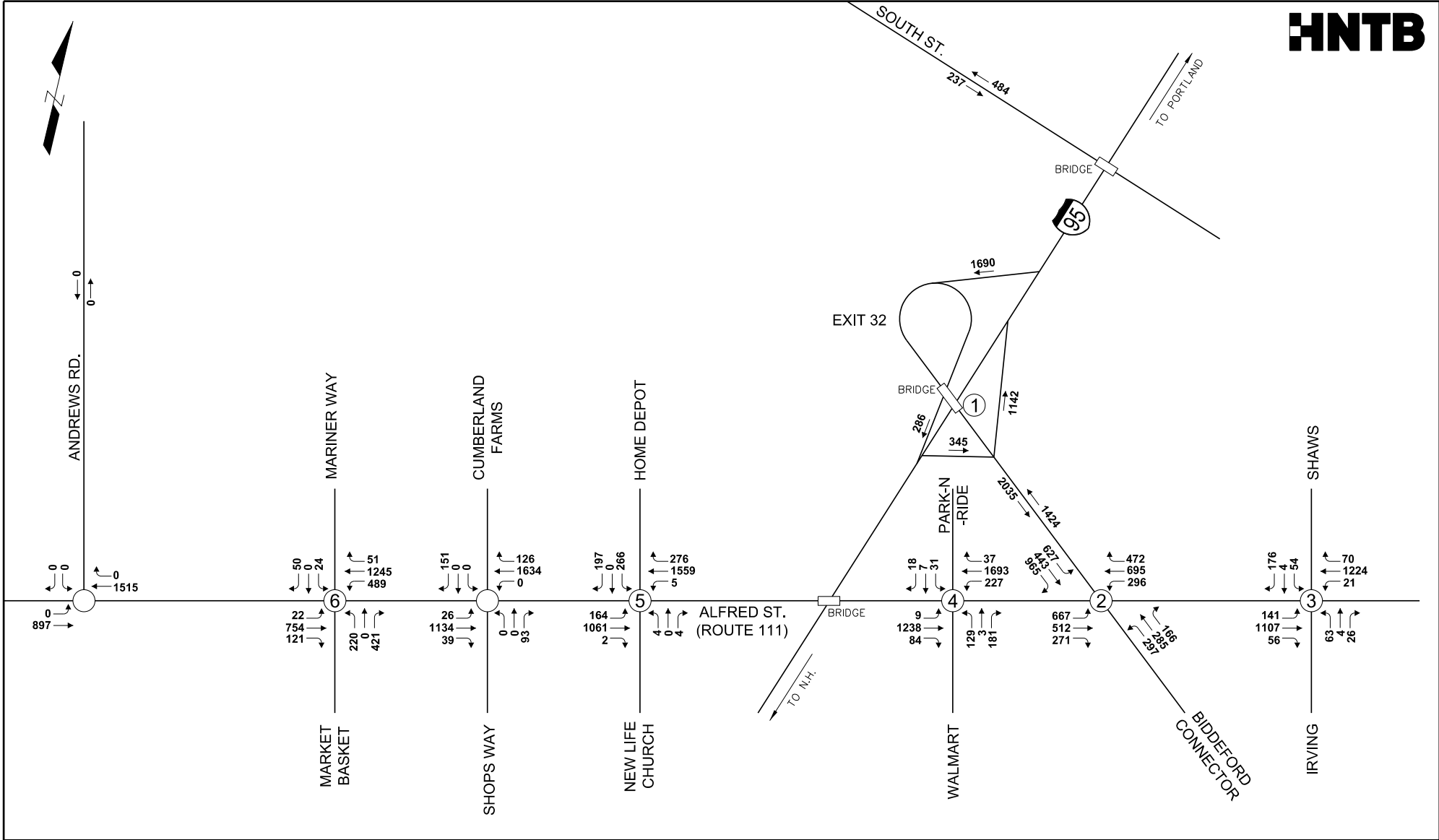


**Appendix A:
Turning Movement Counts**

Exit 32 and Alfred Street (Route 111) Intersection Analysis Results

After leaving the ramp, heavy Exit 32 Southbound Off Ramp traffic weaves with an estimated 300 Exit 32 Northbound Off Ramp vehicles as they approach the intersection with Route 111. According to a weaving survey that was completed during a site visit on August 13, 2018, it was found that more than half of the traffic from the northbound off-ramp is destined to turn left onto Route 111 and therefore requires up to two lane changes in heavy traffic. This extensive weaving condition contributes to excessive queues and poor operating conditions at the southbound approach to the intersection of Exit 32 and Route 111.

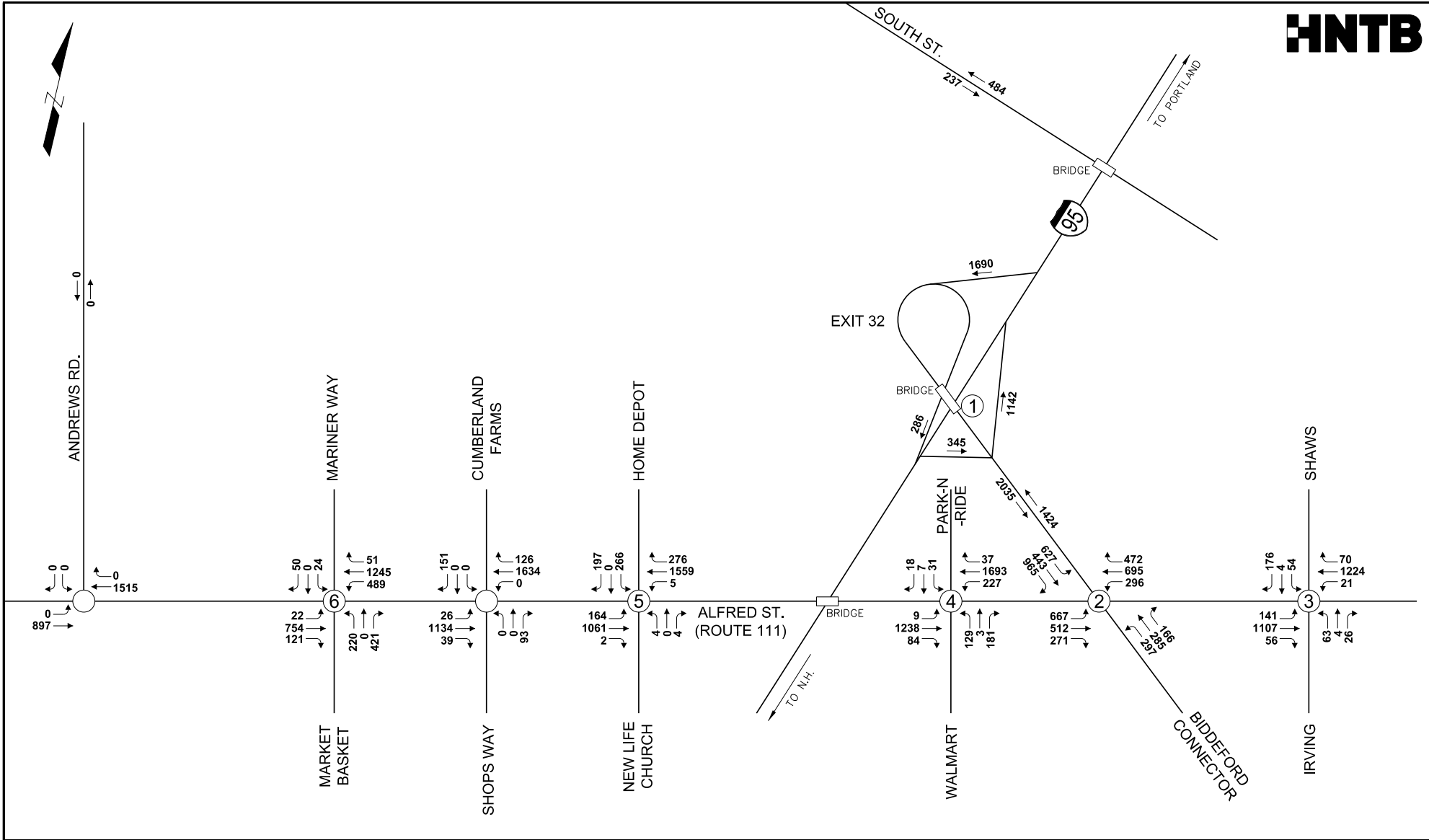




Designer: AG
 Drafter: DB
 Checked By: -
 Scale: NONE
 Date: MAR 2020
 File Name: TMD - Biddeford.dwg

EXIT 32 SAFETY AND CAPACITY IMPROVEMENTS STUDY, BIDDEFORD, ME
ALTERNATIVE 1: 2040 PM PEAK
2 LANE EXIT 32 SOUTHBOUND OFF RAMP

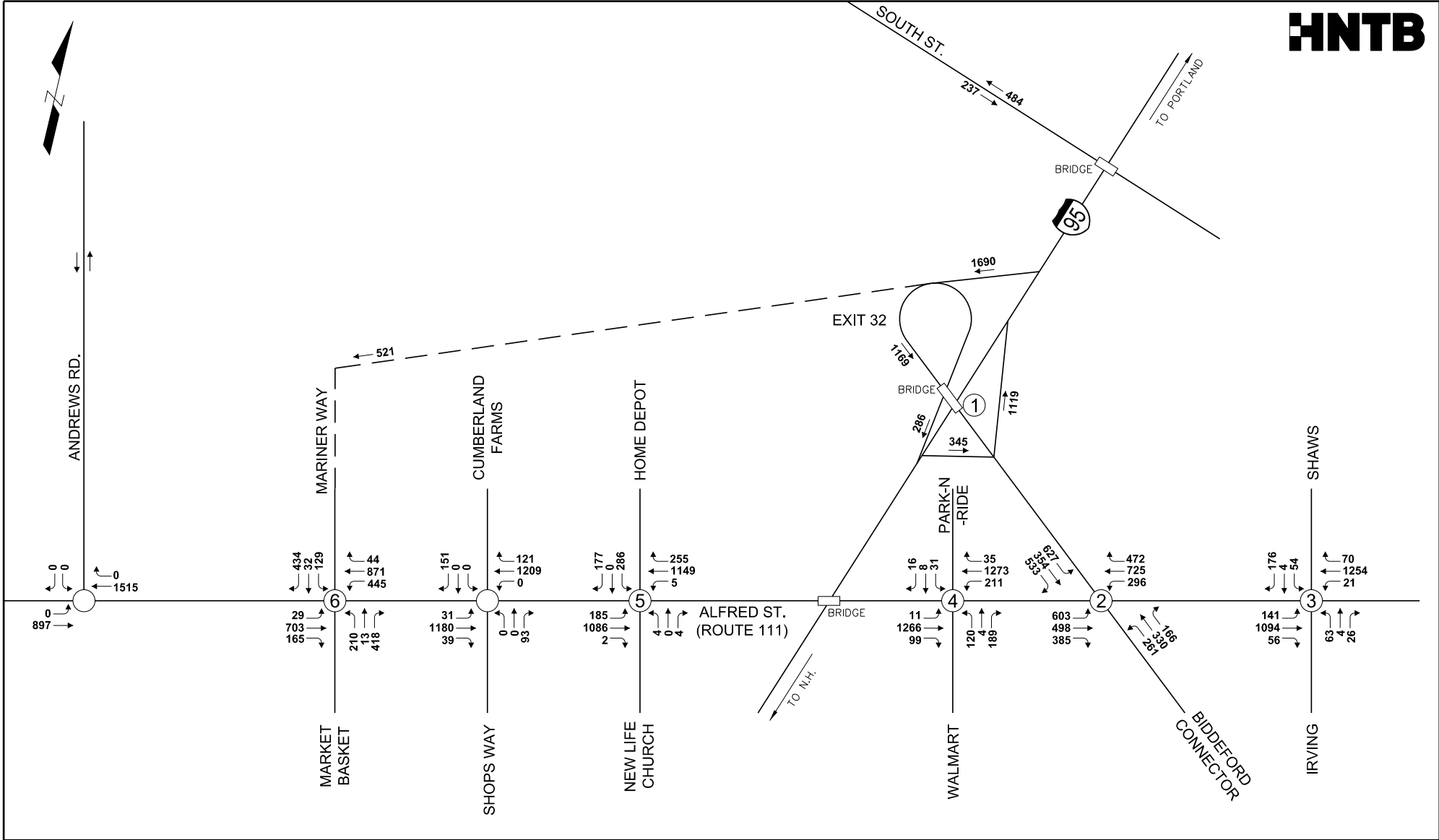
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Designer: AG
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 Date: MAR 2020
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EXIT 32 SAFETY AND CAPACITY IMPROVEMENTS STUDY, BIDDEFORD, ME
2040 PM PEAK, NO BUILD ALTERNATIVE

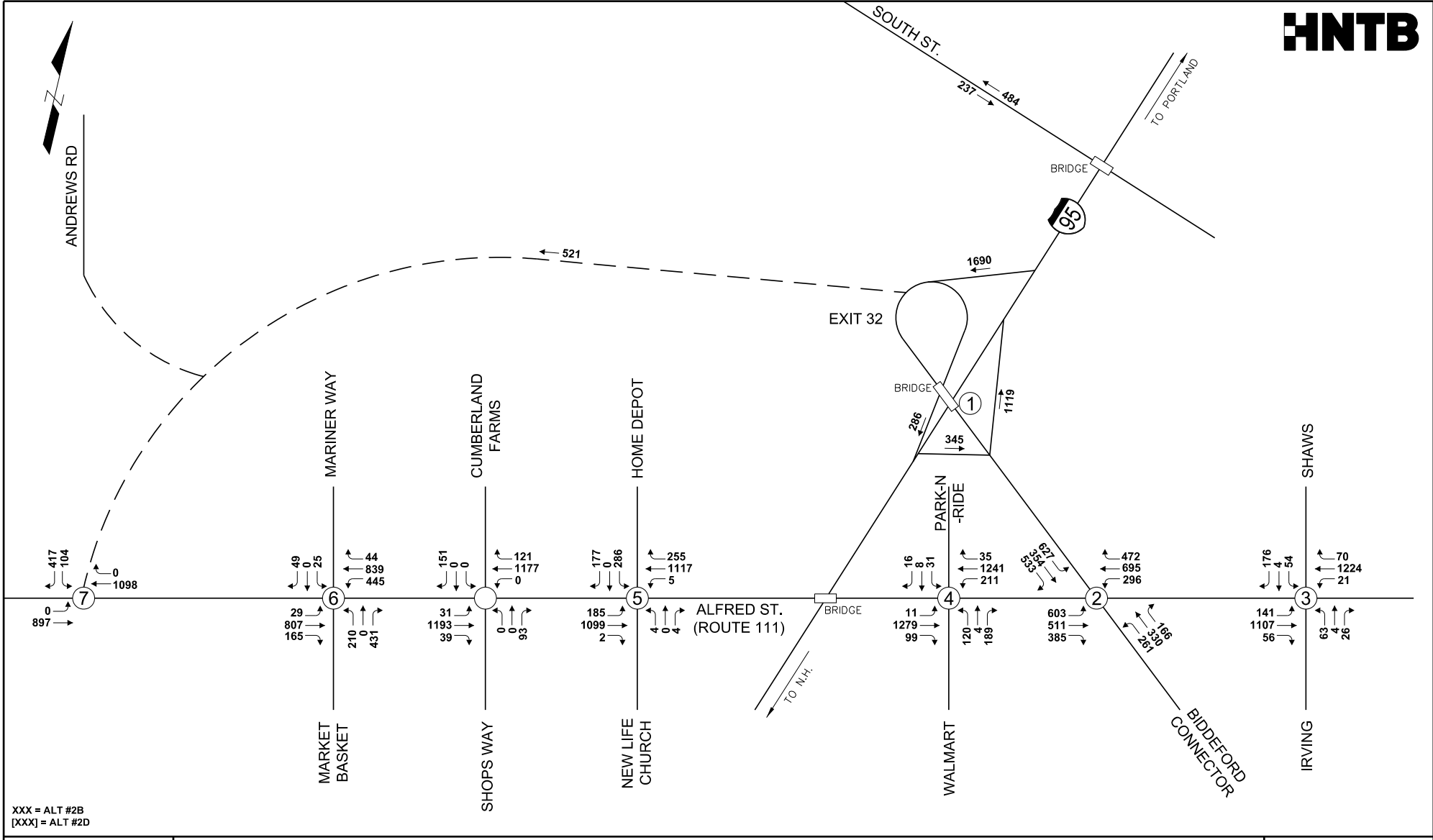
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EXIT 32 SAFETY AND CAPACITY IMPROVEMENTS STUDY, BIDDEFORD, ME
ALTERNATIVE 2A: 2040 PM PEAK
1 LANE EXIT 32 SOUTHBOUND OFF RAMP WITH NEW CONNECTION TO ROUTE 111 VIA MARKET BASKET

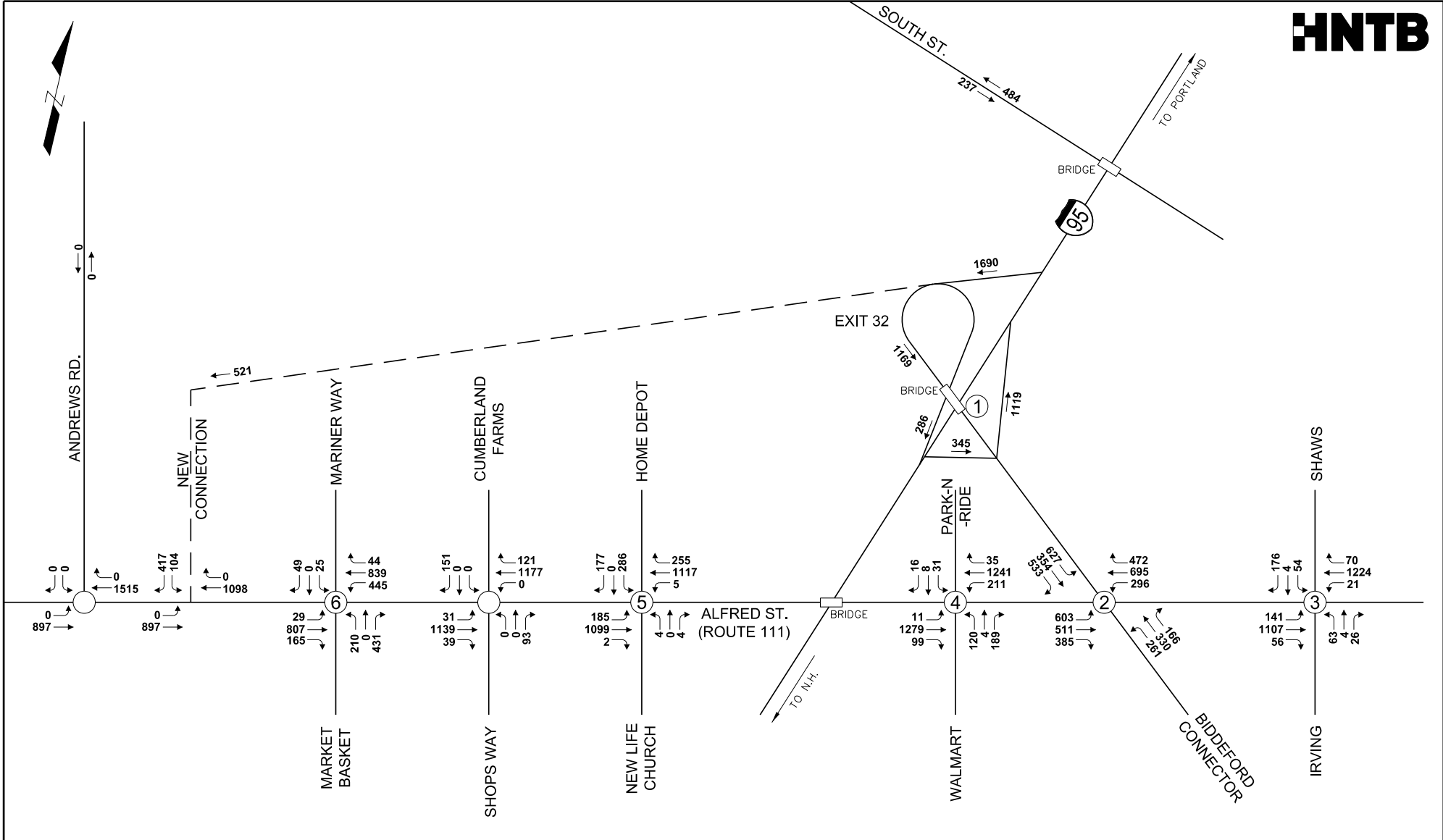
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Designer: AG
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EXIT 32 SAFETY AND CAPACITY IMPROVEMENTS STUDY, BIDDEFORD, ME
ALTERNATIVE 2B & 2D: 2040 PM PEAK
1-2 LANE EXIT 32 SOUTHBOUND (RESPECTIVELY) WITH NEW CONNECTION TO ROUTE 111 VIA ANDREWS ROAD

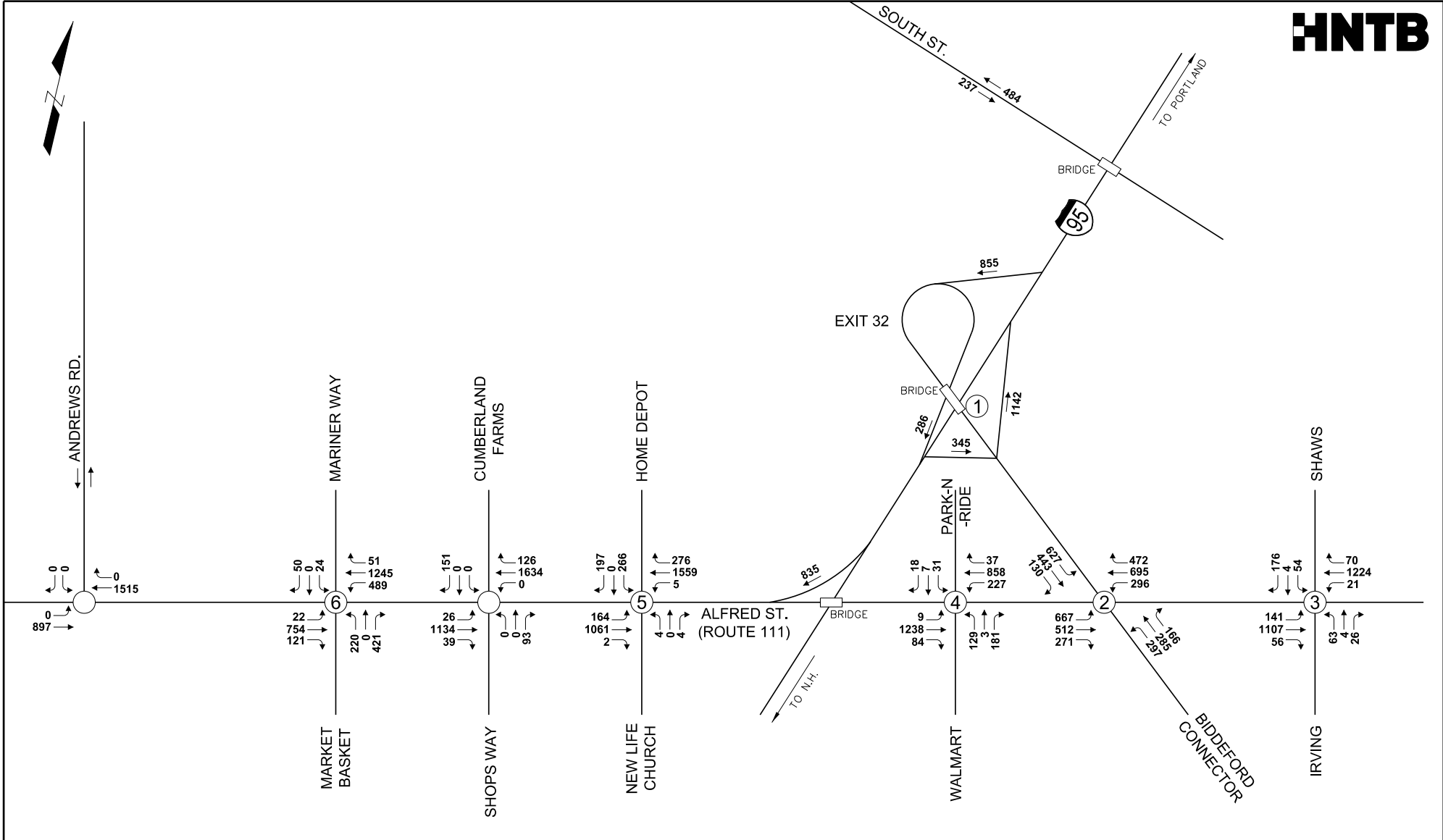
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Designer: AG
 Drafter: DB
 Checked By: -
 Scale: NONE
 Date: MAR 2020
 File Name: TMD - Biddeford.dwg

EXIT 32 SAFETY AND CAPACITY IMPROVEMENTS STUDY, BIDDEFORD, ME
ALTERNATIVE 2C: 2020 PM PEAK
1 LANE EXIT 32 SOUTHBOUND OFF RAMP WITH NEW CONNECTION TO ROUTE 111 VIA A NEW CONNECTION

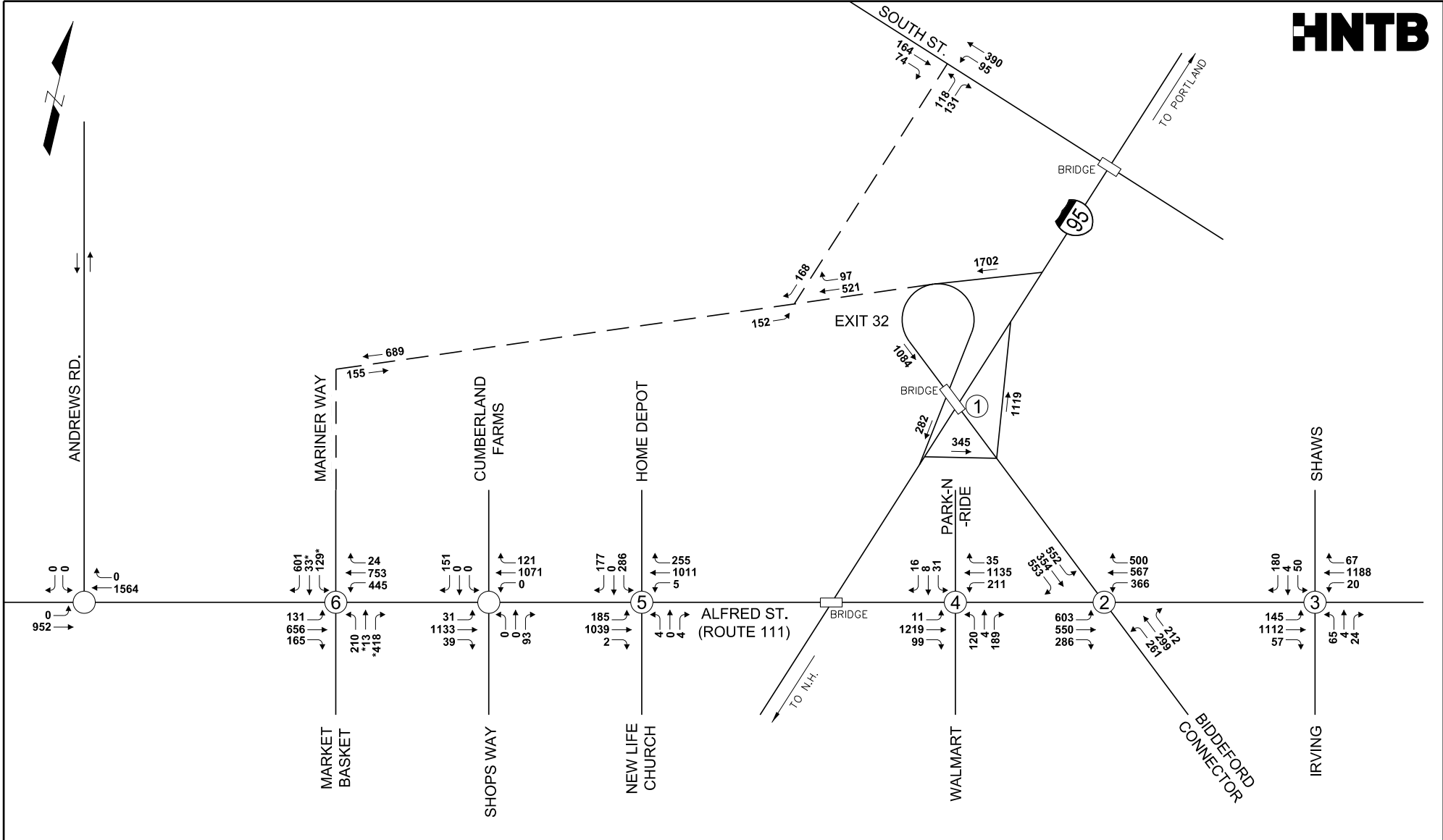
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Designer: AG
 Drafter: DB
 Checked By: -
 Scale: NONE
 Date: MAR 2020
 File Name: TMD - Biddeford.dwg

EXIT 32 SAFETY AND CAPACITY IMPROVEMENTS STUDY, BIDDEFORD, ME
ALTERNATIVE 4: 2040 PM PEAK
COLLECTOR-DISTRIBUTOR ROAD

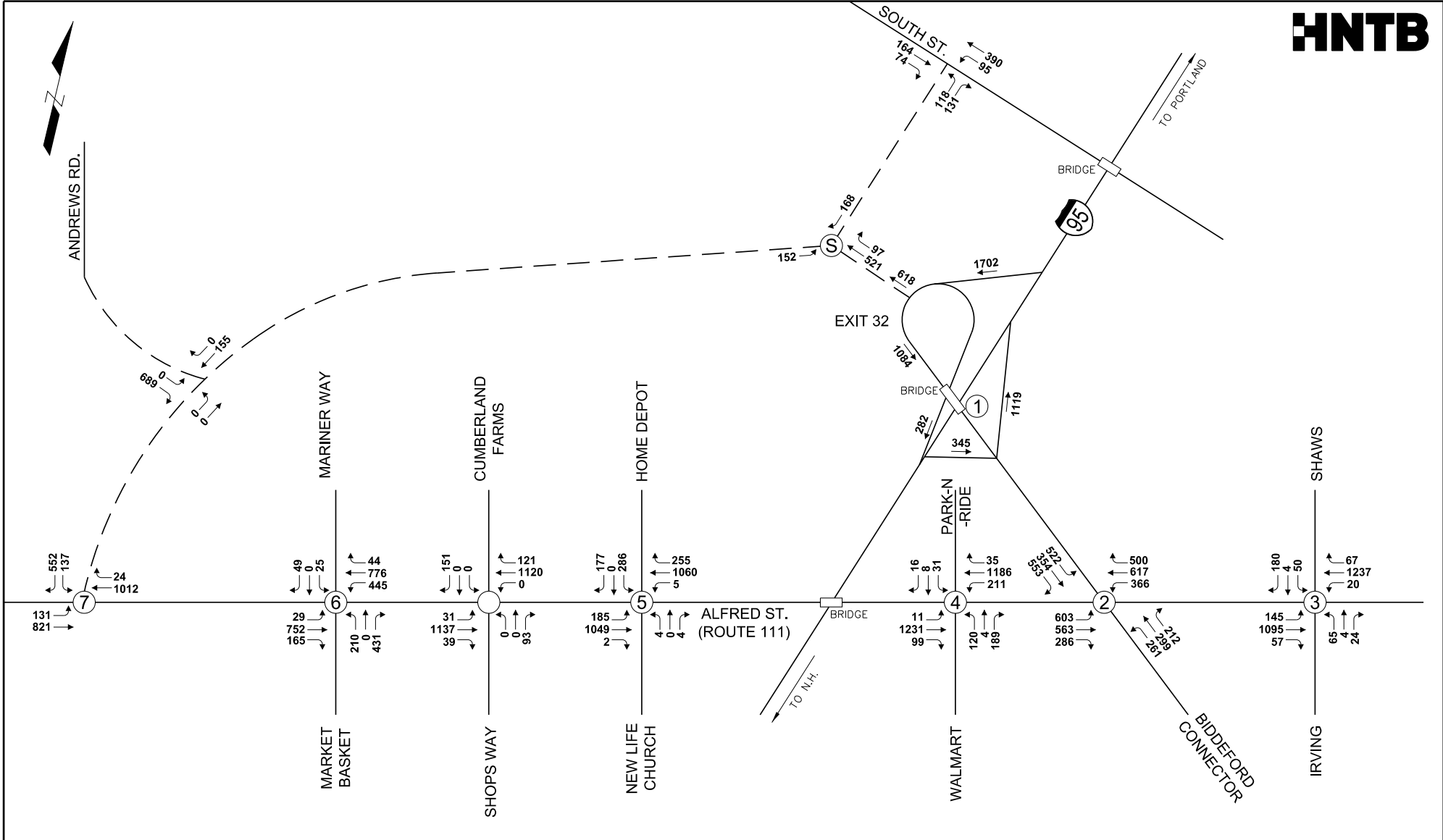
Figure:



Designer: AG
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 Checked By: -
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 Date: MAR 2020
 File Name: TMD - Biddeford.dwg

EXIT 32 SAFETY AND CAPACITY IMPROVEMENTS STUDY, BIDDEFORD, ME
ALTERNATIVE 4A: 2040 PM PEAK
1 LANE EXIT 32 SOUTHBOUND OFF RAMP WITH NEW CONNECTION TO ROUTE 111 VIA MARKET BASKET AND SOUTH STREET

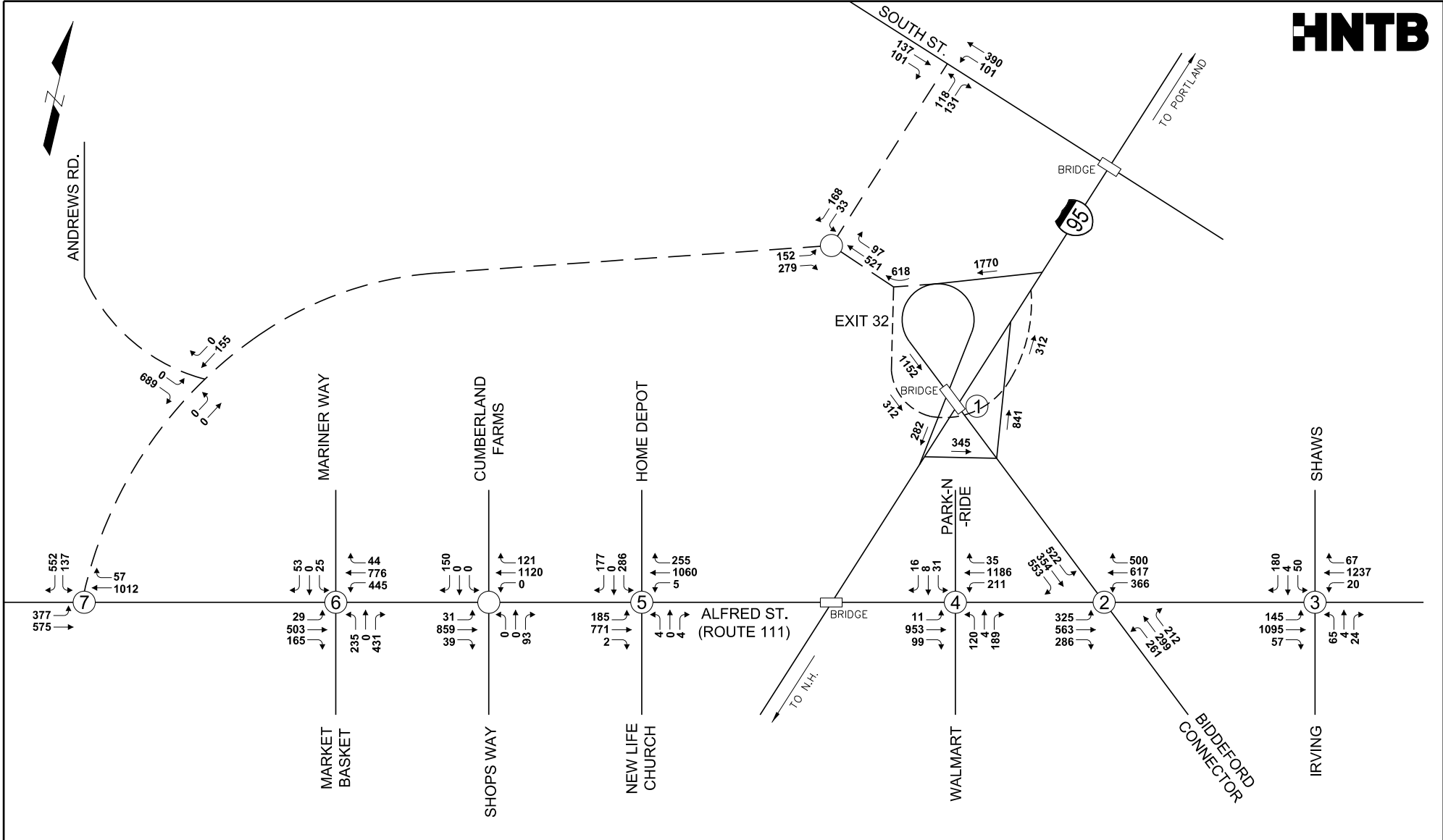
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Designer: AG
 Drafter: DB
 Checked By: -
 Scale: NONE
 Date: MAR 2020
 File Name: TMD - Biddeford.dwg

EXIT 32 SAFETY AND CAPACITY IMPROVEMENTS STUDY, BIDDEFORD, ME
ALTERNATIVE 4B: 2040 PM PEAK
1 LANE EXIT 32 SOUTHBOUND OFF RAMP WITH NEW CONNECTION TO ROUTE 111 VIA ANDREWS ROAD AND SOUTH STREET

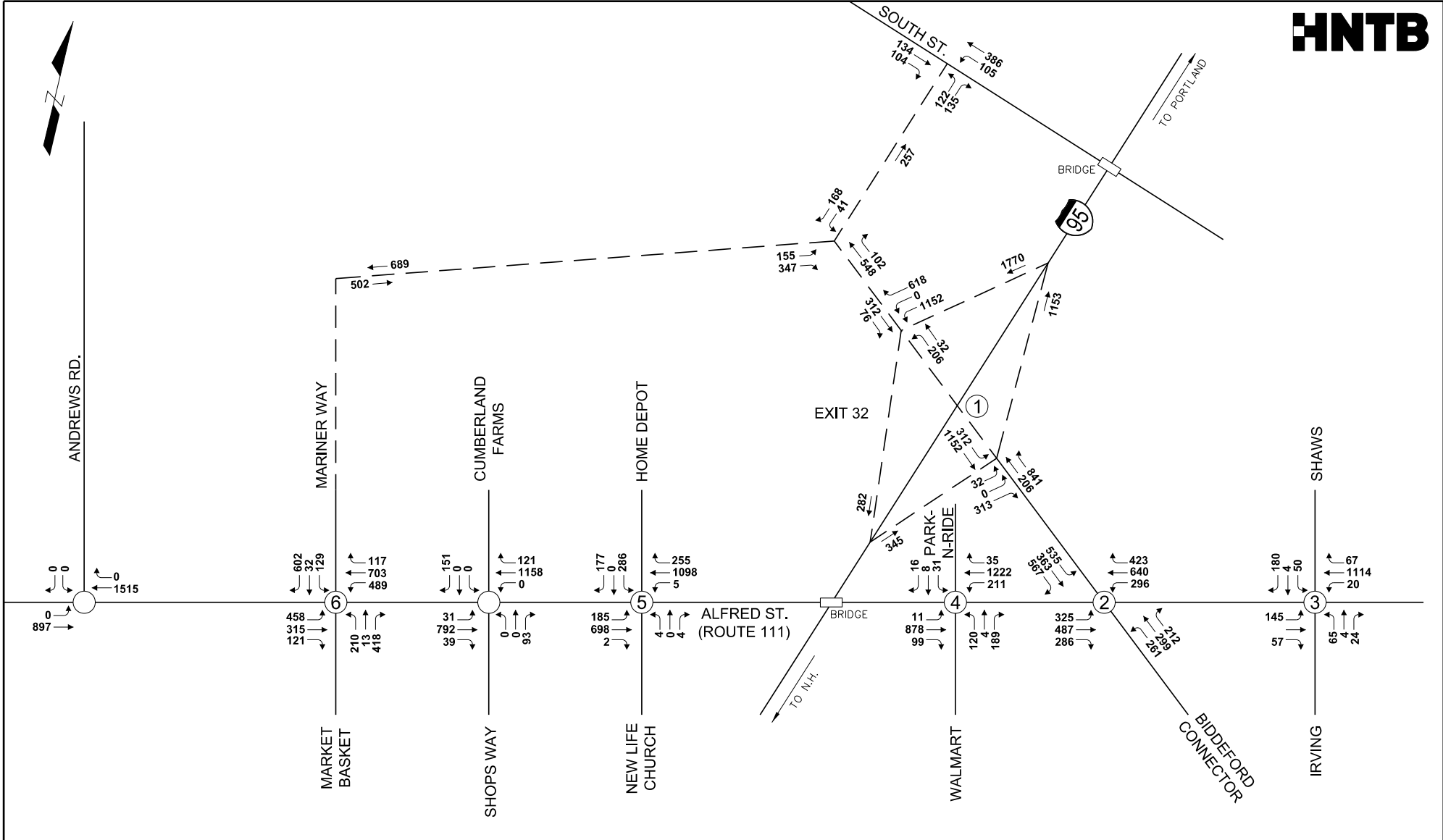
Figure:



Designer: AG
 Drafter: DB
 Checked By: -
 Scale: NONE
 Date: MAR 2020
 File Name: TMD - Biddeford.dwg

EXIT 32 SAFETY AND CAPACITY IMPROVEMENTS STUDY, BIDDEFORD, ME
ALTERNATIVE 5: 2040 PM PEAK
NEW NORTHBOUND ON SLIP RAMP AND NEW CONNECTION TO ROUTE 111 VIA ANDREWS ROAD AND SOUTH STREET

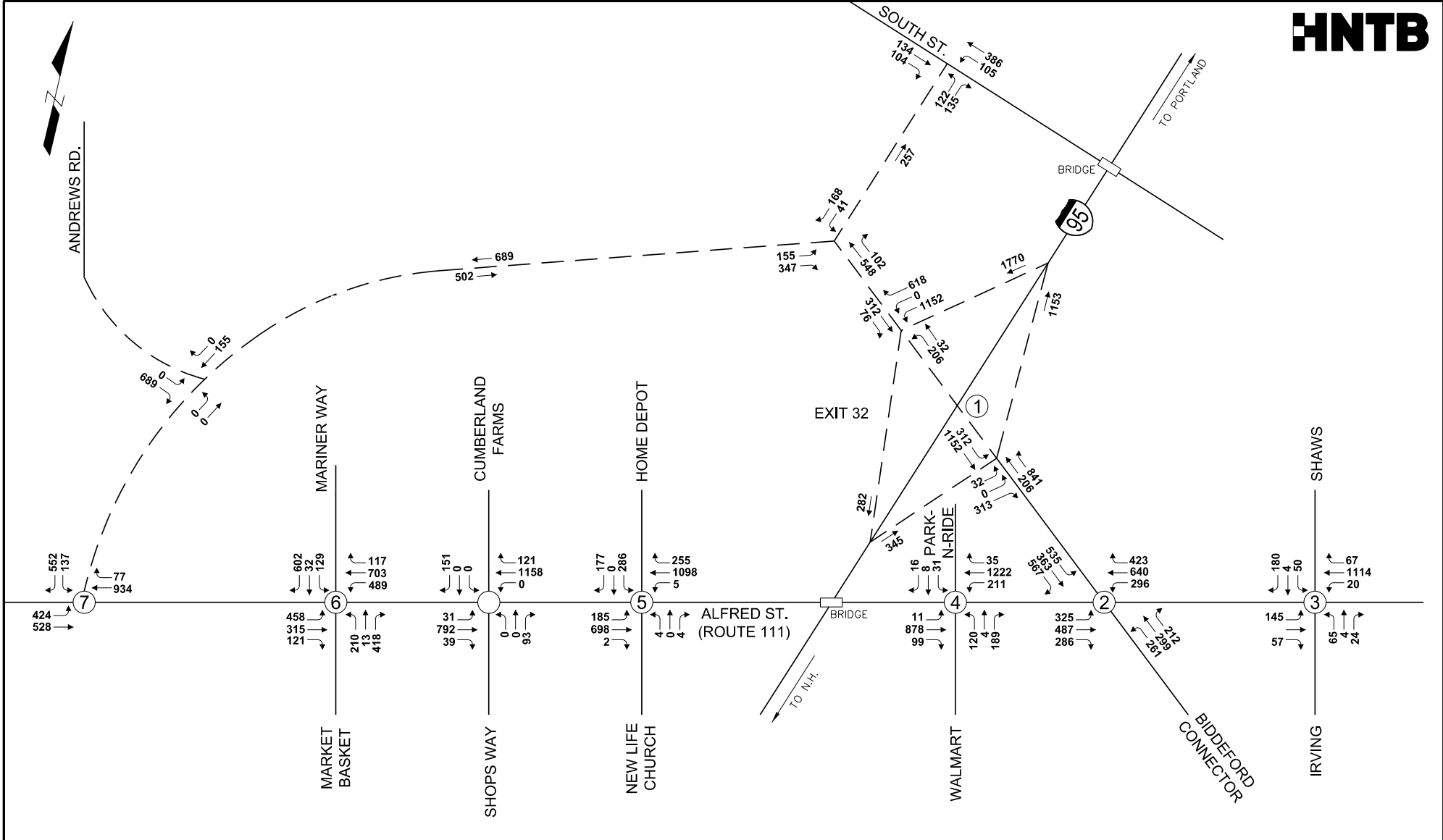
Figure:



Designer: AG
 Drafter: DB
 Checked By: -
 Scale: NONE
 Date: MAR 2020
 File Name: TMD - Biddeford.dwg

EXIT 32 SAFETY AND CAPACITY IMPROVEMENTS STUDY, BIDDEFORD, ME
ALTERNATIVE 6A/6C: 2040 PM PEAK
CONVENTIONAL DIAMOND INTERCHANGE 1-2 SOUTHBOUND OFF RAMP LANES (RESPECTIVELY) WITH
NEW CONNECTION TO ROUTE 111 VIA MARKET BASKET AND SOUTH STREET

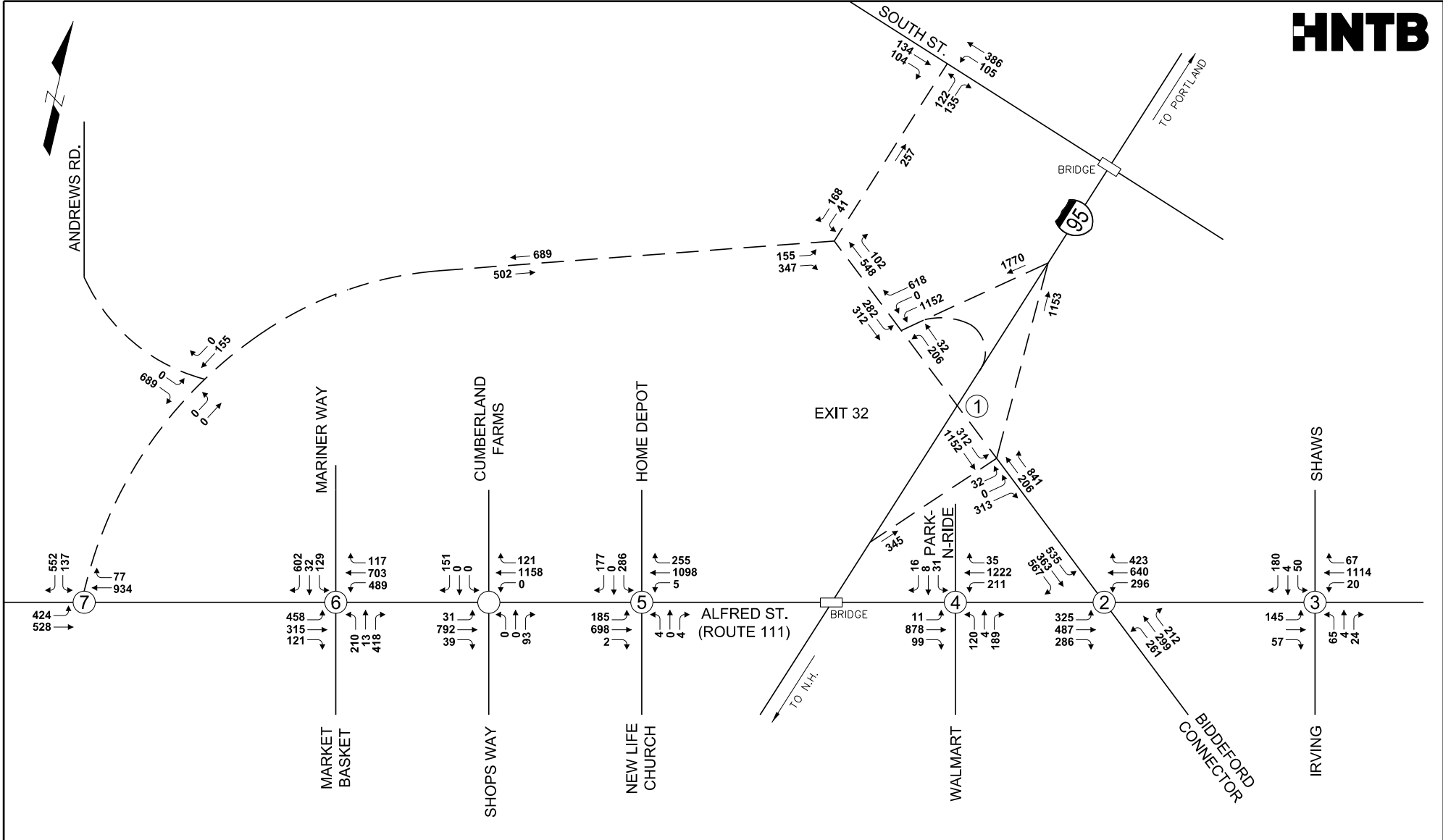
Figure:



Designer: AG
 Drafter: DB
 Checked By: -
 Scale: NONE
 Date: MAR 2020
 File Name: TMD - Biddeford.dwg

EXIT 32 SAFETY AND CAPACITY IMPROVEMENTS STUDY, BIDDEFORD, ME
ALTERNATIVE 6B: 2040 PM PEAK
CONVENTIONAL DIAMOND INTERCHANGE WITH NEW CONNECTION TO ROUTE 111 VIA ANDREWS ROAD

Figure:



Designer: AG
 Drafter: DB
 Checked By: -
 Scale: NONE
 Date: MAR 2020
 File Name: TMD - Biddeford.dwg

EXIT 32 SAFETY AND CAPACITY IMPROVEMENTS STUDY, BIDDEFORD, ME
ALTERNATIVE 6D: 2040 PM PEAK
FOLDED DIAMOND INTERCHANGE 2 SOUTHBOUND OFF RAMP LANES WITH NEW CONNECTION
TO ROUTE 111 VIA ANDREWS ROAD AND SOUTH STREET

Figure:

Appendix B:
Full Analysis Results

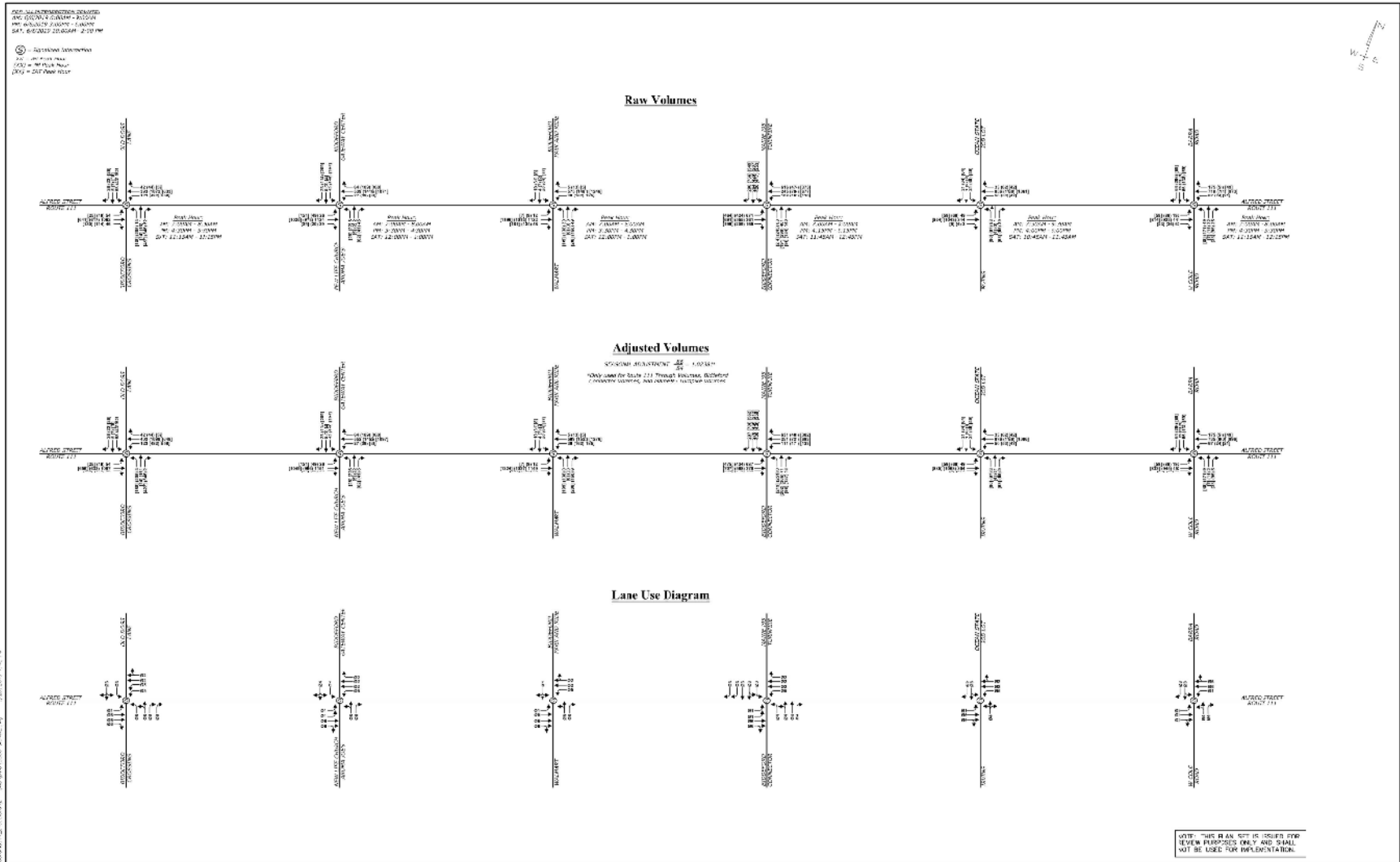
Table 6 – 2036 LOS Queue Summary for the Exit 32 Interchange Long-Term Alternatives (Continued)

Interchange Configuration	2036 No-Build			Alternative 1			Alternative 2A			Alternative 2B			Alternative 2C			Alternative 2D			Alternative 3			Alternative 4A			Alternative 4B			Alternative 5			Alternative 6A			Alternative 6B			Alternative 6C			Alternative 6D		
	Trumpet			Trumpet			Trumpet			Trumpet			Trumpet			C-D/Trumpet			Trumpet			Trumpet			Flyover			Full Diamond			Full Diamond			Full Diamond			Forked Diamond					
Route 111 Connection	N/A			N/A			Mariner Way			Andrews			New Intersection			Andrews			N/A			Mariner Way			Andrews			Mariner			Andrews			Mariner Way			Mariner Way					
South Street Connection	N/A			N/A			N/A			N/A			N/A			N/A			Yes			Yes			Yes			Yes			Yes			Yes			Yes					
# SB Off Ramp Lanes	1			2			1			1			2			1			1			1			1			2			2			2								
Analysis Area	Delay (veh/s)	LOS	95 th Percentile Queue (ft.)	Delay (veh/s)	LOS	95 th Percentile Queue (ft.)	Delay (veh/s)	LOS	95 th Percentile Queue (ft.)	Delay (veh/s)	LOS	95 th Percentile Queue (ft.)	Delay (veh/s)	LOS	95 th Percentile Queue (ft.)	Delay (veh/s)	LOS	95 th Percentile Queue (ft.)	Delay (veh/s)	LOS	95 th Percentile Queue (ft.)	Delay (veh/s)	LOS	95 th Percentile Queue (ft.)	Delay (veh/s)	LOS	95 th Percentile Queue (ft.)	Delay (veh/s)	LOS	95 th Percentile Queue (ft.)	Delay (veh/s)	LOS	95 th Percentile Queue (ft.)	Delay (veh/s)	LOS	95 th Percentile Queue (ft.)						
9. Intersection of I-95 Connector and New Connector Road																																										
New Connector SWB Approach	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
New Connector NEB Approach	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
I-95 Connector NWB Approach	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
SEB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
10. Intersection of New Connector Road and South Street (Stopped Controlled)																																										
SWB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
New Connector NEB Approach	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
South Street NWB Approach	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
South Street SEB Approach	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
11. Intersection of I-95 SB Ramps and I-95 Connector																																										
I-95 SB Approach	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
I-95 Connector EB Approach	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
I-95 Connector WB Approach	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
12. Intersection of I-95 NB Ramps and I-95 Connector																																										
I-95 NB Approach	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
I-95 Connector EB Approach	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
I-95 Connector WB Approach	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			

*Queues exceed VISSIM measurement thresholds

 Indicates connection to Route 111

Appendix C:
Route 111 Signal Improvements
as provided by Gorrill-Palmer



ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED
DATE 05/20/2014 BY 60324
AUTHORITY 50 USC 1705



NOTE: THIS PLAN SET IS ISSUED FOR REVIEW PURPOSES ONLY AND SHALL NOT BE USED FOR IMPLEMENTATION.

Drawn by: [Name] Date: 02/22/2019
 Checked by: [Name] Date: 02/22/2019
 This plan shall not be modified without written consent from Gorrill Palmer Consulting Engineers, Inc. (GPCE). Any modifications authorized or approved shall be at the user's risk and without liability to GPCE.

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Drawn by: [Name]
Raw Volumes, Seasonally Adjusted Volumes, Lane Use
 Project: **Route 111 Signal Coordination**
 Client: **Maine Turnpike Authority**
 2260 Congress Street, Portland, ME 04102

Drawing No:
1

