MaineDOT Bangor Transit Propensity Study

Advisory Group Meeting

September 2022

Agenda

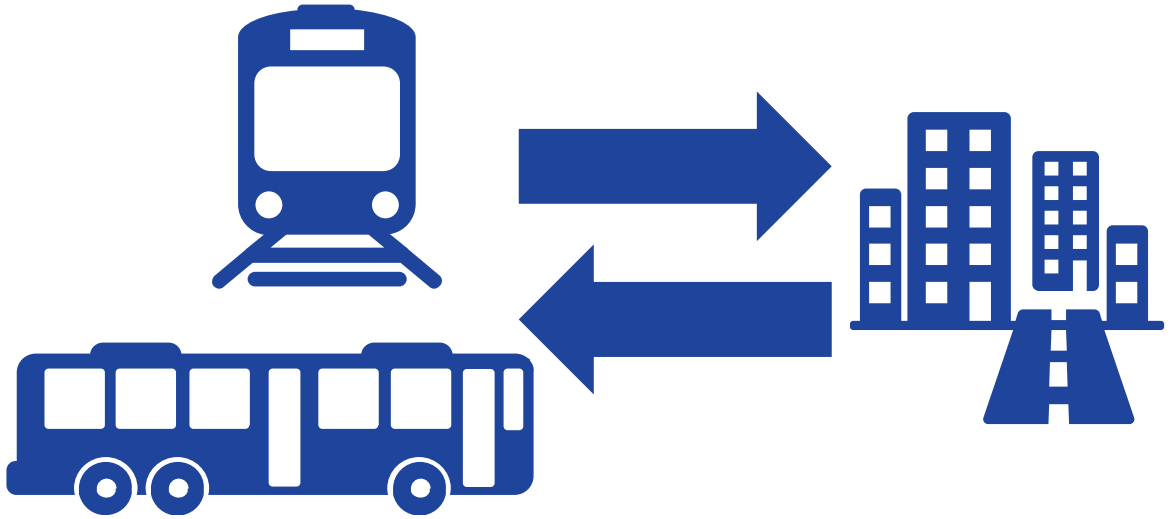
- Introductions
- Project Purpose
- Work Plan Overview
- Peer Review
- Existing Travel Conditions
- Next Steps
- Discussion & Questions

Introductions

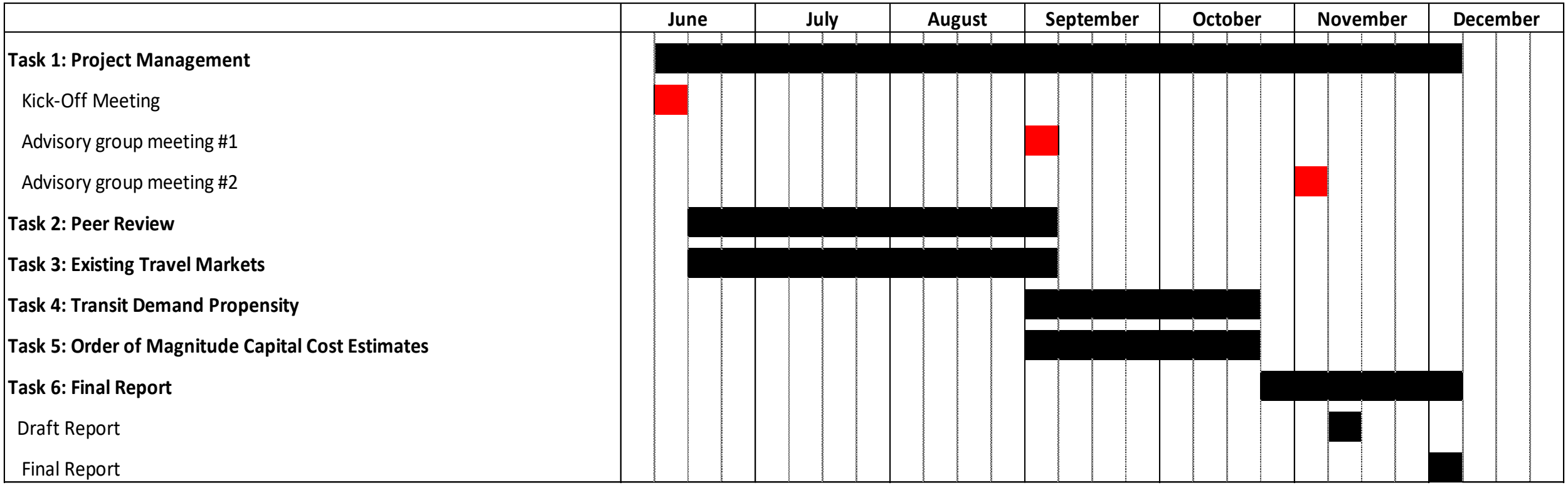
- MaineDOT
- NNEPRA
- Advisory Group
- VHB

Project Purpose

- To Establish “who” and “how much” of potential enhanced transit service
  - Who would potentially use service
  - How much it would conceptually cost
- Study area
  - Corridor Between Portland and Bangor & surrounding areas

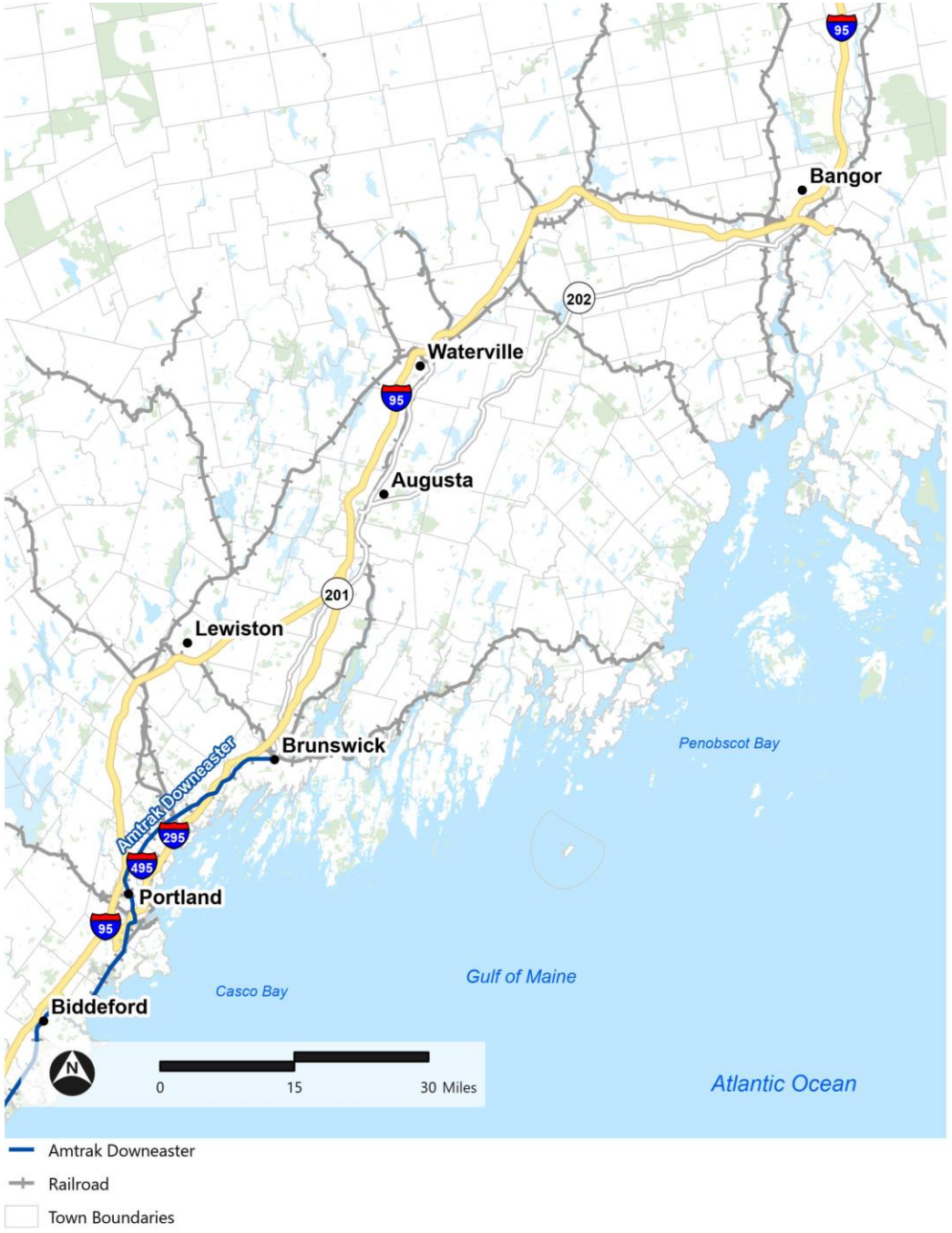


Work Plan Overview



Study Area

- 130-mile Corridor from Portland to Bangor, passing through Brunswick, Augusta, and Waterville
  - Amtrak operates Downeaster intercity rail service from Boston terminating in Brunswick, with other stops in Maine in Wells, Saco, Old Orchard Beach, Portland & Freeport
  - Concord Coach Line operates intercity bus service from Boston terminating in Orono, with other stops in Maine in Portland, Auburn, Lewiston, Augusta, Waterville & Bangor
- Study will consider propensity for transit service enhancements between Portland & Bangor



Peer Review

- Literature review of corridors similar to Portland – Bangor
  - Small urban areas
  - Parallel highway access
  - Endpoint Amtrak network connection
- Transit demand & capital costs
  - Applicable Lewiston-Auburn Study rail corridors reviewed will be used
  - Comparable intercity bus corridor

Ethan Allen Express – Vermont & New York

- Ethan Allen Express runs a daily service from Burlington, Vermont to New York City
  - Total Route Length: 310 miles
  - Total Route Travel Time: 7 hrs and 35 mins
- For the purposes of the study, the segment from Rutland to Croton-on-Hudson was used for ridership and population data
  - Segment Length: 211 miles
  - Segment Travel Time: 4 hrs and 30 mins
  - Average Daily Passengers: 151 (2019)
- Parallel Highway Corridor(s): US-4 and I-87

Illinois Zephyr and Carl Sandburg – Illinois

- Illinois Zephyr and Carl Sandburg trains run a daily service between Quincy, Illinois and Chicago
  - Route Length: 258 miles
  - Route Travel Time: 4 hrs and 21 mins
- For the purposes of the study, the segment from Quincy to Plano was used for ridership and population data
  - Segment Length: 206 miles
  - Segment Travel Time: 3 hrs and 8 mins
  - Average Daily Passengers: 565 (2019)
- Parallel Highway Corridor(s): IL-110, Chicago-Kansas Expressway, I-80, US-24

Illini and Saluki– Illinois

- Illini and Saluki trains run a daily service between Carbondale, Illinois and Chicago
  - Route Length: 310 miles
  - Route Travel Time: 5 hrs and 30 mins
- For the purposes of the study, the segment from Carbondale to Kankakee was used for ridership and population data
  - Segment Length: 253 miles
  - Segment Travel Time: 3 hrs and 45 mins
  - Average Daily Passengers: 1045 (2019)
- Parallel Highway Corridor(s): I-57, US-51

Amtrak I-41 Thruway Bus Service– Wisconsin

- Amtrak runs two daily round trip buses between Green Bay and Milwaukee
  - Route Length: 154 miles
  - Route Travel Time: 3 hrs 43 mins – 4 hrs 3 mins
- For the purposes of the study, the segment from Green Bay to Fond Du Lac was used for ridership and population data
  - Segment Length: 78 miles
  - Segment Travel Time: 1 hrs 53 mins – 2 hrs 10 mins
  - Average Daily Passengers: TBD (2019)

Peer Study Capture Rates

Service	2019 Capture Area Population	2019 Average Daily Ridership	Capture Rate
Ethan Allen Express	279,523	151	0.054%
Illinois Zephyr and Carl Sandburg	127,785	565	0.442%
Illini and Saluki	244,905	1045	0.427%
Amtrak I-41 Bus Service	313,501	TBD	TBD

- Averaging the three peer study capture rates, we achieve an average value of 0.308%

Service	2019 Capture Area Population	2019 Average Daily Ridership	Capture Rate
Downeaster north of Portland	16,122	112	0.429%

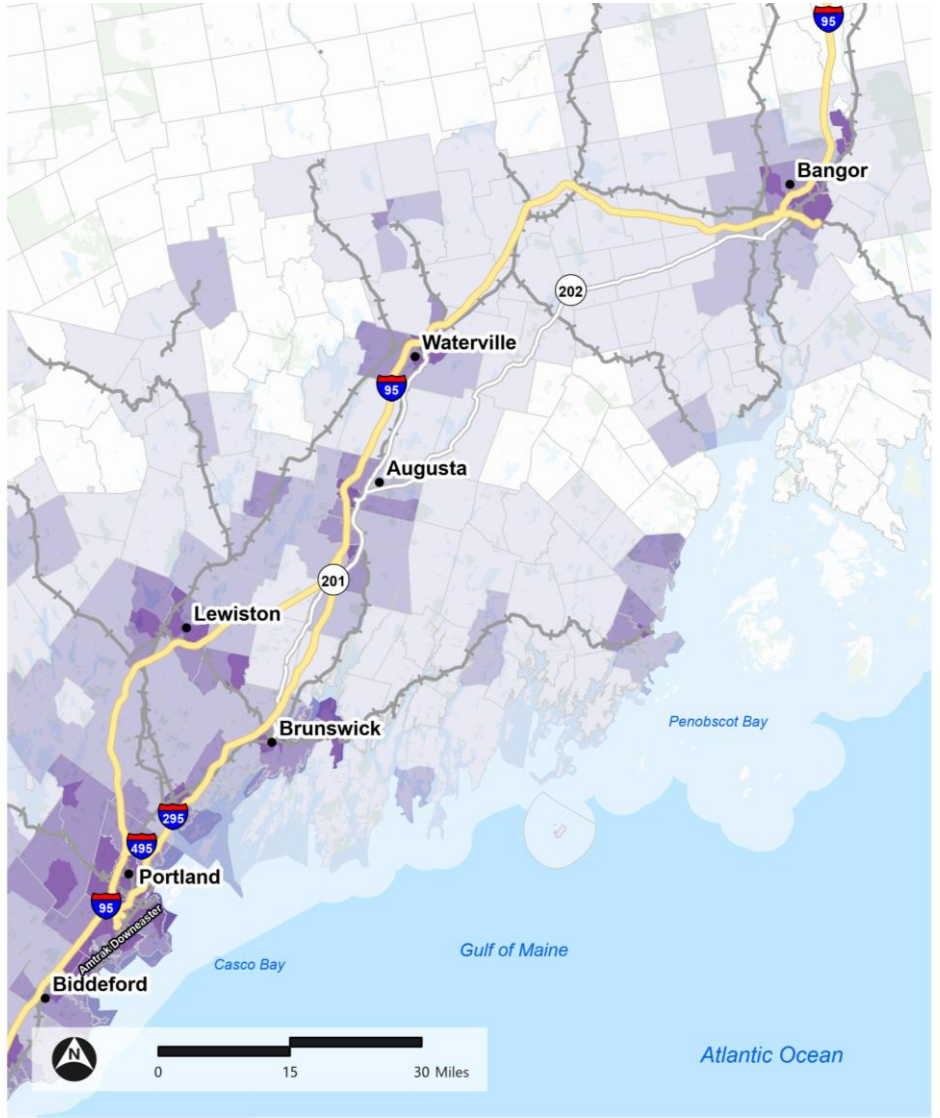
- The value for Brunswick and Freeport show that the value given by the peer reviews is conservative

Existing Travel Markets

- Travel data collection & review:
  - Population & employment data
  - Downeaster ridership
  - Current & historical travel data
- Summary of existing and historic travel & trends

Existing Travel Markets- Study Area Population Density

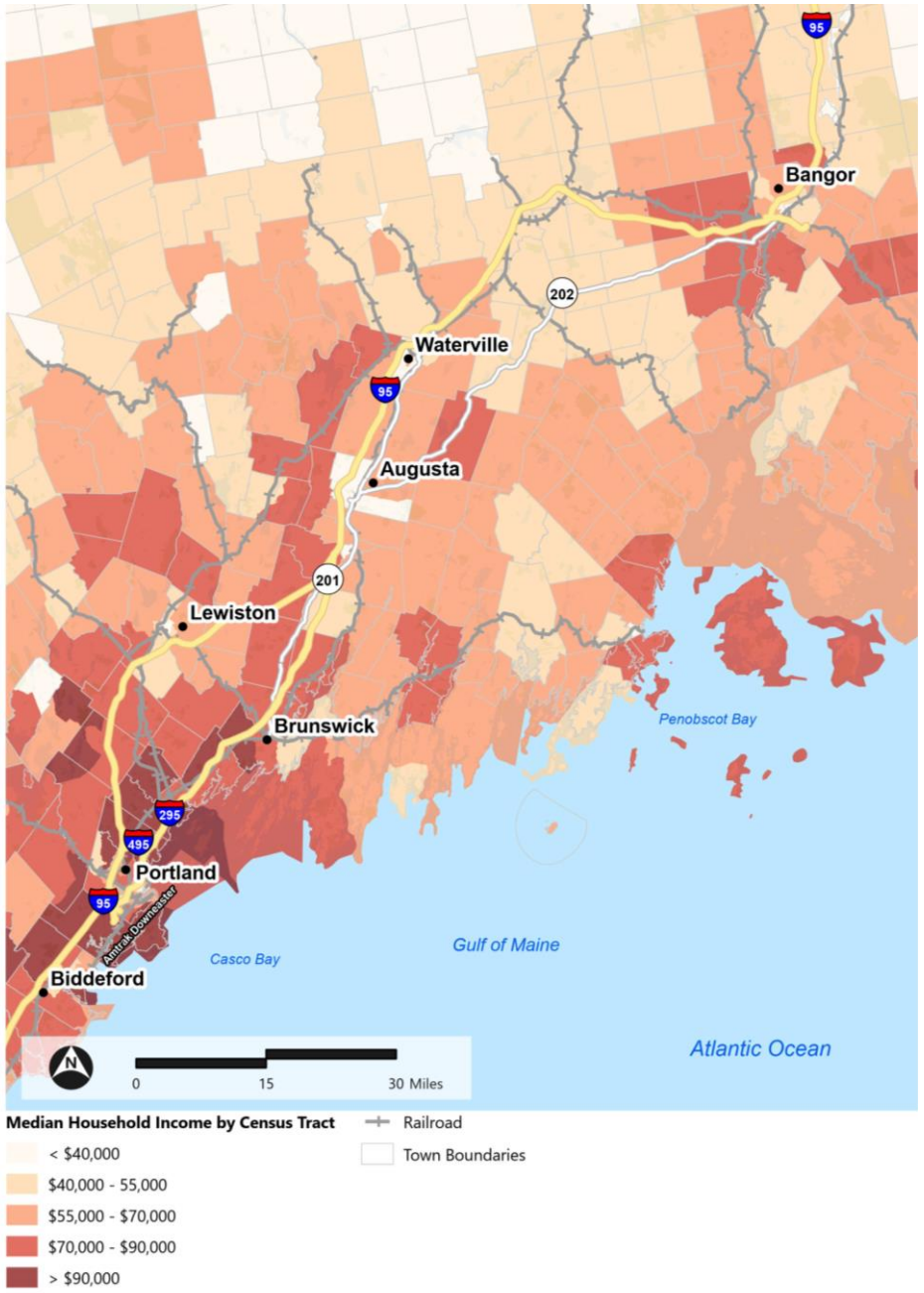
- Dense populations concentrated around Portland, Brunswick, Augusta, Waterville, and Bangor
- Less dense populations encompass the rest of the corridor, concentrated around I-295 and I-95



Source: MEGIS, ACS 2016-2020

Existing Travel Markets- Study Area Median Household Income

- Populations around Portland and Brunswick have the highest median incomes
- Highest household incomes are in the outer ring of communities around the cities, while the cities themselves have lower median incomes

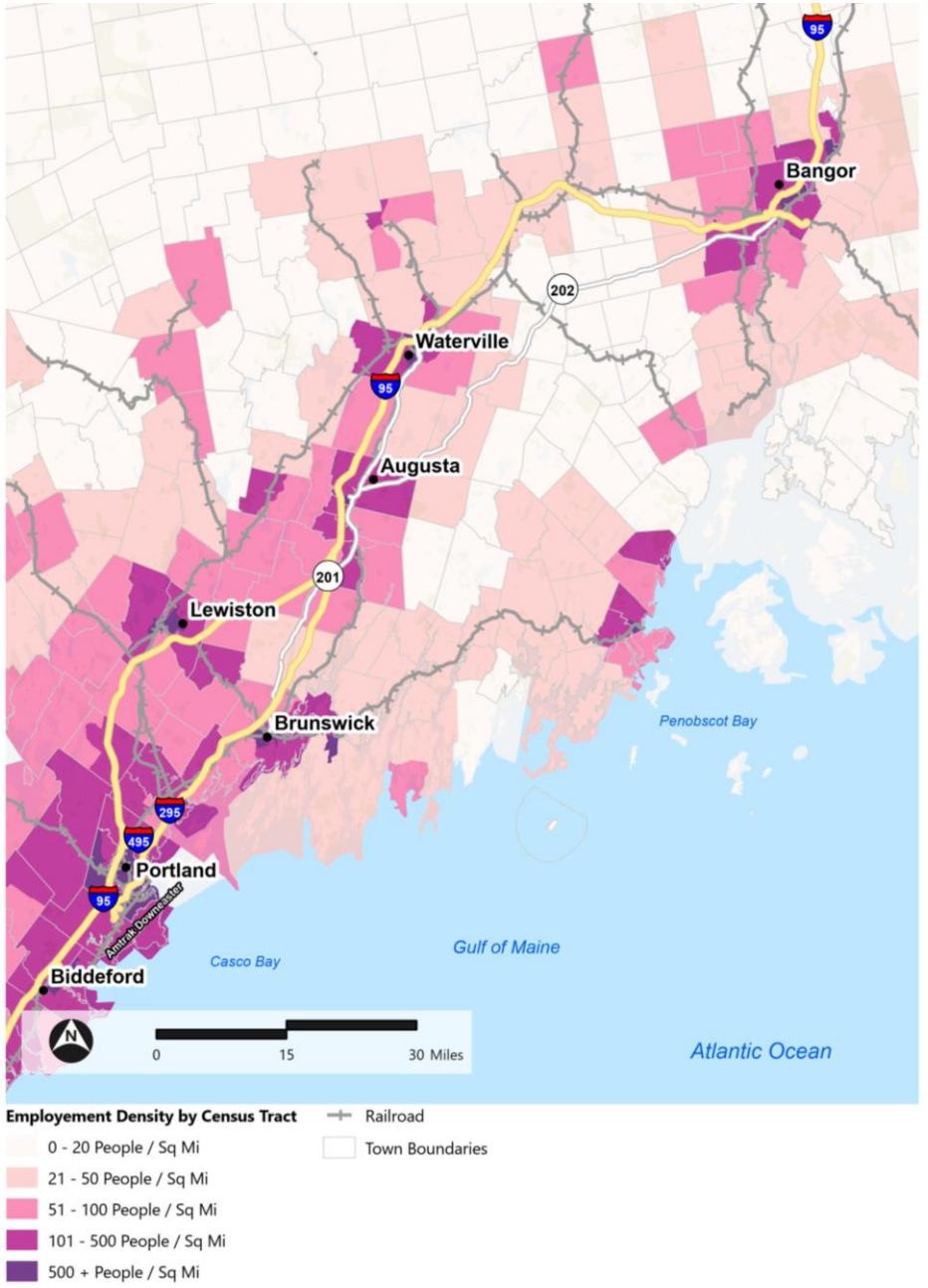


Existing Travel Markets- Study Area Zero-Car Households

- Zero-vehicle households are relatively prevalent within the cities along the corridor, with the non-city areas having higher levels of car ownership

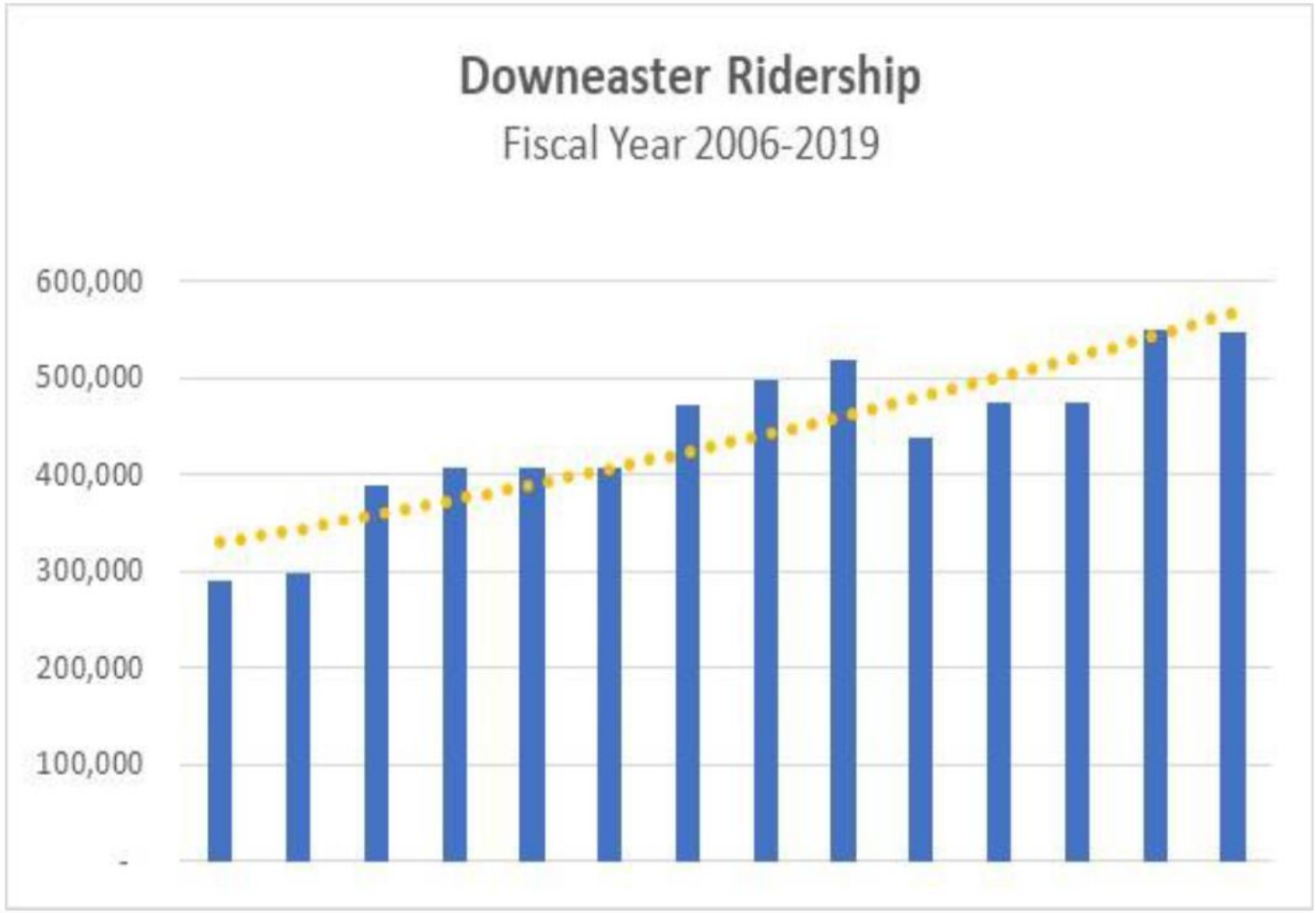
Existing Travel Markets- Study Area Employment Density

- Highest employment density is concentrated around Portland, Brunswick, Augusta, Waterville, and Bangor
- More moderate employment density is found along the rest of the corridor, concentrated around I-295 and I-95



Source: MEGIS, ACS 2016-2020

Existing Travel Markets – Downeaster Ridership



Source: NNEPRA Annual Report FY2020

Existing Travel Markets – Downeaster Ridership

Downeaster Average Monthly Ridership 2019

STATION	AVG. MONTHLY RIDERSHIP 2019	SHARE %	NON-BOSTON SHARE %
Brunswick	2,453	5.2%	9.3%
Freeport	911	1.9%	3.4%
Portland	6,718	14.3%	25.4%
Old Orchard Beach	646	1.4%	2.4%
Saco	2,150	4.6%	8.1%
Wells	2,430	5.2%	9.2%
Dover	2,560	5.4%	9.7%
Durham	2,525	5.4%	9.5%
Exeter	3,918	8.3%	14.8%
Haverhill	1,614	3.4%	6.1%
Woburn	547	1.2%	2.1%
Boston	20,540	43.7%	N/A
TOTAL	47,011	100%	N/A

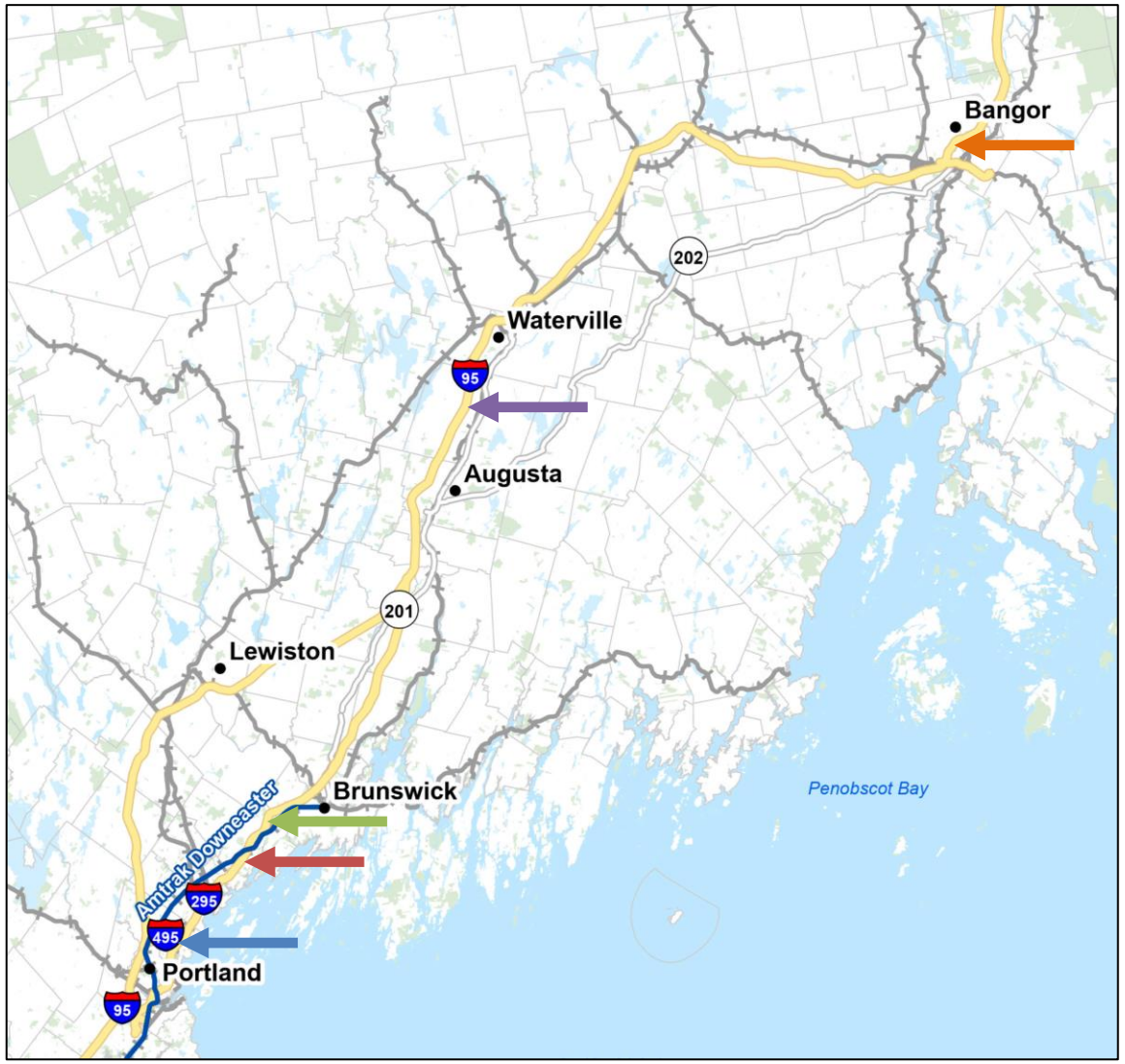
Existing Travel Markets – Downeaster and Bus Service Frequency

- Downeaster makes five round trips daily
  - Trains Depart Brunswick at 4:30 am, 7:10 am, 11:00 am, 12:55 pm, and 5:45 pm
  - Trains Depart Boston at 8:50 am, 11:50 am, 3:45 pm, 5:20 pm, and 10:30 pm
- Greyhound bus makes one round trip daily between Bangor and Boston
  - Buses depart Bangor at 10:15 am
  - Buses depart Boston at 5:45 pm
- Concord Coach Lines bus makes four round trips daily between Bangor and Boston
  - Buses depart Bangor at 7:00 am (two buses), 11:00 am, and 2:15 pm
  - Buses depart Boston at 8:00 am, 11:15 am, 1:15 pm, and 4:15 pm

Existing Travel Markets – Corridor Travel Time

	Personal Vehicle (Cars)	Concord Coach Lines Bus Service	Greyhound Bus Service
Bangor to Portland Peak Hour	2h – 2h 5m	2h 10m	2h 55m
Bangor to Portland Off-Peak Hour	2h 5m	2h 10m	2h 55m
Bangor to Boston Peak Hour	3h 45m – 3h 55m	4h 10m - 4h 25m	5h 35m
Bangor to Boston Off-Peak Hour	3h 50m – 3h 55m	4h 10m - 4h 25m	5h 35m

Existing Travel Markets-Vehicle Traffic Trends on I-295



2019 AADT Southbound Traffic Volumes

- 25,530 vehicles
- 15,760 vehicles
- 16,080 vehicles
- 28,720 vehicles
- 25,860 vehicles

Next Steps

Transit Demand Propensity

- Apply comparable transit demand based on peer review
- Estimate demand propensity
  - Up to 4 enhanced transit scenarios
  - Consider mode shift or diversion
  - Consider local and regional trips

Order of Magnitude Capital Cost Estimates

- Estimate range of potential capital cost for up to 4 enhanced transit scenarios

Advisory Group Meeting #2

Final Report

MaineDOT Bangor Transit Propensity Study

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Discussion & Questions