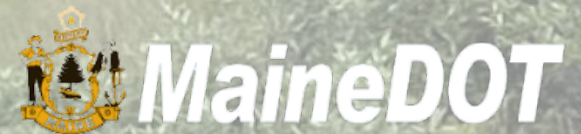


BERLIN SUBDIVISION RAIL CORRIDOR

RAIL USE ADVISORY COUNCIL MEETING

October 27, 2022



Berlin Subdivision Rail Corridor – General Approach

- Understand who lives in the corridor and could serve as potential users of an Interim Trail facility.
- Develop estimates of Interim Trail usage (trips) and benefits, including:
 - Potential consumer spending
 - Potential health related benefits
 - Estimates of potential property value impacts
- Offer summary potential fiscal/economic impacts associated with rail station development for selected locations
 - Develop estimates of annual on-board passenger rail spending
- Discuss other benefits of the Potential Restoration of Rail Service Scenarios

Berlin Subdivision Rail Corridor - Scenarios

- **Interim Trail using existing rail bed (Trail until Rail or “TUR”)**
 - TUR – Gravel (path)
 - TUT – Paved (path)
- **Interim Trail adjacent to existing rail bed (Rail with Trail or “RWT”)**
 - RWT – Gravel (path)
 - RWT – Paved (path)
- **Maintain/preserve existing rail corridor for possible restoration of rail services**
 - RWT – Gravel (path)
 - RWT – Paved (path)

Scenarios modeled using IMPLAN to estimate economic impacts associated with Capital costs of construction and ongoing Maintenance costs:

- The latter refer specifically to costs, for maintaining the trail and/or rail infrastructure **only** and do not include any operation costs for potential rail service

Berlin Subdivision Rail Corridor

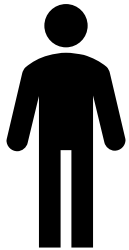
Berlin Subdivision Rail Corridor Study Area Map

Miles in Length



26.48

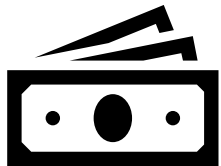
Within a half-mile radius of the proposed Corridor



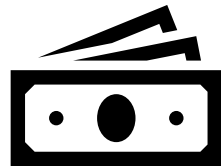
15,000+ residents



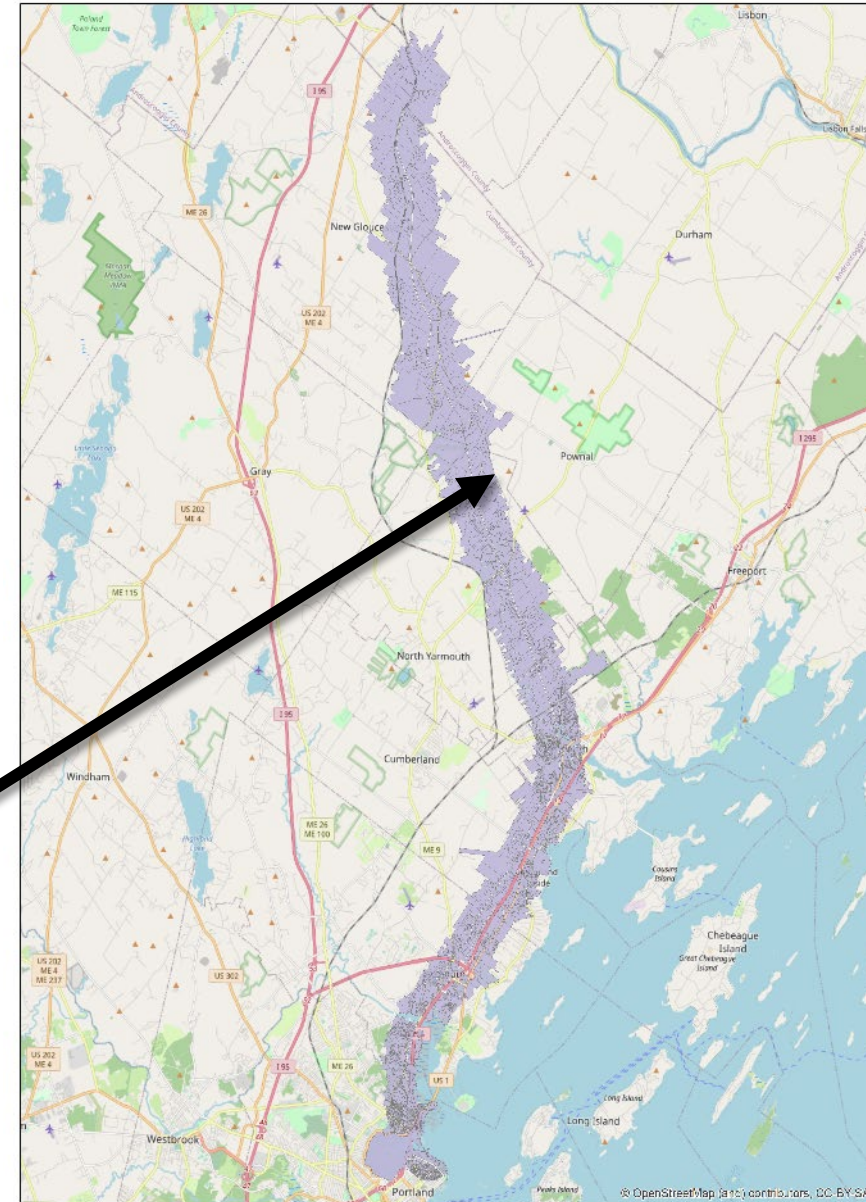
3,382 Single Family Units



\$87,565 Median HH Income

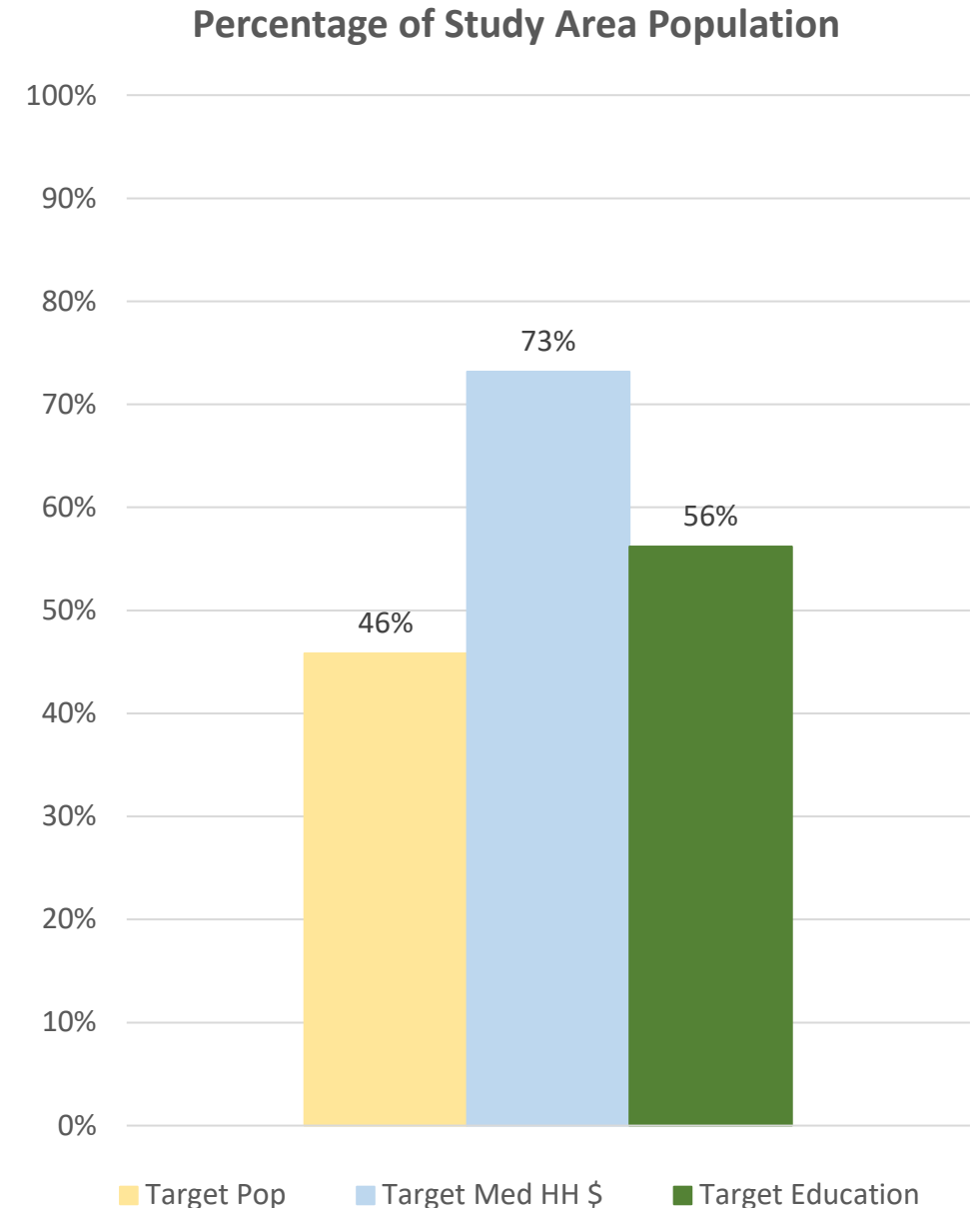


\$58,050 Per Capita Income



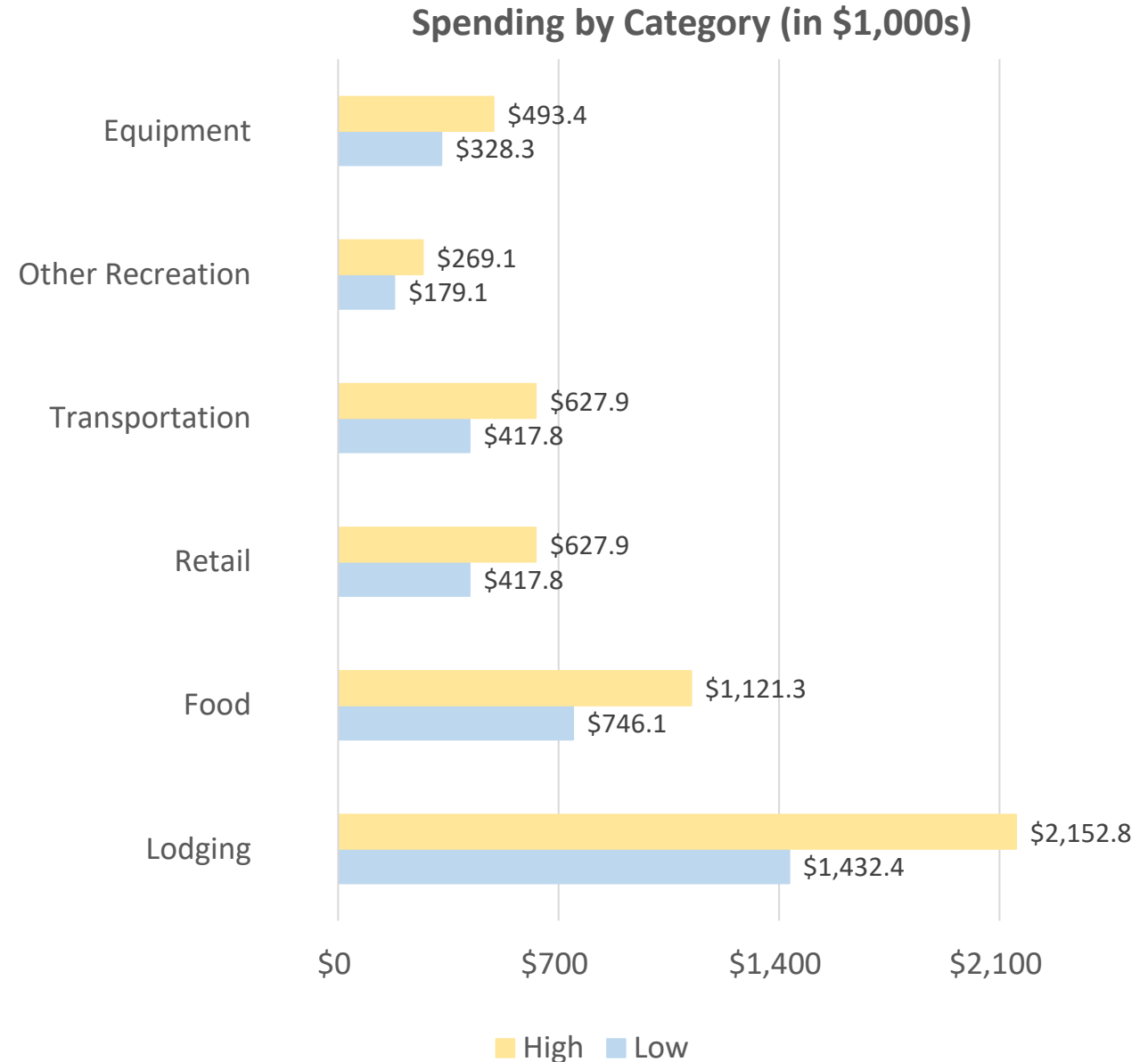
Berlin Subdivision Rail Corridor – Interim Trail

- Prior studies of Interim Trail facilities have indicated that use is particularly high among the following:
 - **Population** – highest among those aged 45 and older – equates to nearly 46% of the resident population in the study area (**7,000+ residents**)
 - **Median Household Income** – highest among households with median incomes over \$60,000 - equates to slightly more than 73% of the households in the study area (**5,000+ households**)
 - **Educational Attainment** – highest among those with at least a college education – approximately 56% of the population aged 25 or older in the study area (**11,000+ residents**)



Berlin Subdivision Rail Corridor – Interim Trail

- Potential trips on the Berlin Subdivision Rail Corridor range from 129,750 to 195,000.
- Studies suggest 23% of all trips may be made by non-local trail users – or approximately 29,840 to 44,850 for this analysis.
- Studies also indicate that the average consumer spending for non-local users per trip averages \$118.
- This could result in annual spending across all categories of:
 - **Low Estimate** – approximately **\$3.52** million
 - **High Estimate** – approximately **\$5.29** million
 - **Note** – these estimates could be less if snowmobile recreational uses were curtailed or not permitted

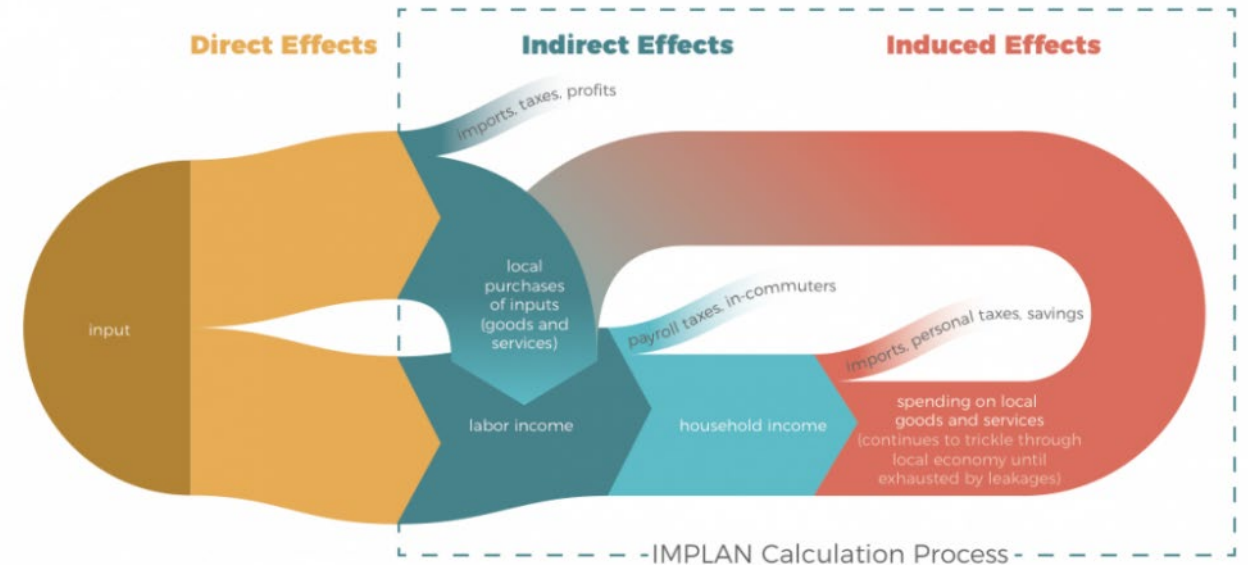


Berlin Subdivision Rail Corridor – IMPLAN Overview

RKG utilized the IMPLAN econometric model to understand the potential direct, indirect, and induced impacts of spending by users and construction and on-going maintenance associated with the different use scenarios.

- **Direct Impacts** - Direct impacts refer to the initial dollar investment into the economy. In this case, the direct impacts are equal to user spending, the estimated construction cost, and on-going operations/maintenance.
- **Indirect Impacts** - The indirect impacts refer to the “inter-industry impacts of the input-output analysis.” Indirect impacts result from spending by workers building, operating, or maintaining the facility as well as business to business spending to buy equipment and supplies, rent space, pay their employees, etc.
- **Induced Impacts** - The induced impacts refer to the impacts of spending by the employees generated by the direct and indirect impacts.

IMPLAN Model Diagram



Source: IMPLAN Economic Impact Analysis

Berlin Subdivision Rail Corridor – Interim Trail

- RKG measured the economic impact of user spending and how those additional dollars could impact Maine’s economy
- The IMPLAN measure of **value added** is the contribution to gross state product (GSP), or labor income plus taxes on production and imports:
 - **Low Estimate** – annual spending of **\$3.52** million results in a value added **\$3.25** million.
 - **High Estimate** – annual spending of **\$5.29** million results in a value added **\$4.88** million.

The greatest value added is from lodging and food expenditures – both exhibiting the greatest annual spending.

SUMMARY COMPARISONS - IMPLAN Models (total) (\$millions)				
Low Estimate of Total Consumer Spending = \$3,521,415				
Expenditure Category	Employment	Labor		
		Income	Value Added	Output
Lodging	23	\$1.10	\$1.60	\$2.59
Food	14	\$0.50	\$0.79	\$1.32
Retail	2	\$0.10	\$0.14	\$0.25
Transportation	13	\$0.27	\$0.44	\$0.79
Other Recreation	4	\$0.14	\$0.20	\$0.34
Equipment	1	\$0.05	\$0.09	\$0.16
Totals of Low Estimate	57	\$2.17	\$3.25	\$5.46
High Estimate of Total Consumer Spending = \$5,292,300				
Expenditure Category	Employment	Labor		
		Income	Value Added	Output
Lodging	35	\$1.65	\$2.40	\$3.89
Food	20	\$0.75	\$1.18	\$1.99
Retail	4	\$0.14	\$0.22	\$0.38
Transportation	19	\$0.41	\$0.66	\$1.18
Other Recreation	6	\$0.22	\$0.30	\$0.52
Equipment	1	\$0.08	\$0.13	\$0.25
Totals of High Estimate	86	\$3.26	\$4.88	\$8.20

Berlin Subdivision Rail Corridor – Interim Trail

Potential Health Benefits of Interim Trail Use

- According to studies by the CDC, many adults are at health risk from limited physical activity and categorized as:
 - **Inactive**
 - **Insufficiently Active**
- For Maine, the CDC estimates 24.8% of the adult population falls within these two categories and when applied to the Berlin Subdivision Rail Corridor adult population (aged 45+) = **1,738** persons
 - **Inactive** – annual per capita health costs of **\$1,704**
 - **Insufficiently Active** – annual per capita health costs of **\$846**

7,007 - Adults over 45 in the Corridor

X

24.8% as Insufficiently Active and Inactive

=

1,738 as Insufficiently Active and Inactive

X

5% (174 adults) become more physically active as a result of the facility

=

Increased physical activity results in potential health benefits of \$221,561

Berlin Subdivision Rail Corridor – Interim Trail

Potential Property Value Benefits

- Within the Berlin Subdivision Rail Corridor there are a total of:
 - **3,382** single family units
 - Average per unit valuation of nearly **\$347,500**

- Studies vary in estimating what impacts proximity to green space, or in this instance an interim trail may have, but generally offer a 5% to 10% impact.
 - **At 5%** - average impact of nearly **\$17,375**
 - **At 10%** - average impact of nearly **\$34,750**

Summary Residential Values by Town - Berlin Subdivision Rail Corridor					
Single Family Units					
Location	# of Units	Total Valuation (in millions)	Average Value per Unit	5% Value Increase	10% Value Increase
Auburn	6	\$1.12	\$186,250	\$9,313	\$18,625
Cumberland	338	\$153.73	\$454,833	\$22,742	\$45,483
Falmouth	530	\$297.62	\$561,541	\$28,077	\$56,154
New Gloucester	189	\$42.90	\$226,977	\$11,349	\$22,698
North Yarmouth	284	\$105.00	\$369,726	\$18,486	\$36,973
Portland	1,096	\$248.08	\$226,353	\$11,318	\$22,635
Pownal	45	\$4.73	\$105,098	\$5,255	\$10,510
Yarmouth	894	\$321.99	\$360,172	\$18,009	\$36,017
Totals or Averages	3,382	\$1,175.17	\$347,479	\$17,374	\$34,748

Note – Any potential increase in property values would most likely be realized as a residential property were to come on the market as a for sale property, with an Interim Trail cited as a “locational amenity”. RKG does not necessarily consider that local assessing departments would unilaterally increase the property’s estimated valuation without some market basis such as comparable sales activity.

Berlin Subdivision Rail Corridor – Capital Costs – Interim Trail and Rail Service

- Infrastructure (or capital) costs were used as the basis for the initial investment for each of the six scenarios under consideration
 - Note** that the estimated capital costs are presented in total and without regard to the source of funding. If, for example, some portion of the funding were from the State of Maine, then those dollars are already in the state economy.
 - As before, the metric of interest is **value added** or the additional impact to gross state product for Maine’s economy over the period of construction.

SUMMARY COMPARISONS - IMPLAN Models (total) and in rounded \$millions					Estimated
Infrastructure Costs					Initial Costs
Type of Use(s)	Employment	Labor Income	Value Added	Output	Direct
Freight Rail	281	\$15.15	\$19.02	\$42.41	\$22.20
Passenger Rail	3,474	\$187.02	\$234.77	\$523.39	\$274.00
TUR - Gravel	602	\$32.42	\$40.70	\$90.73	\$47.50
TUR - Paved	697	\$37.54	\$47.12	\$105.06	\$55.00
RWT - Gravel	1,141	\$61.43	\$77.11	\$171.92	\$90.00
RWT - Paved	1,196	\$64.36	\$80.80	\$180.13	\$94.30

Source: IMPLAN, VHB and RKG (2022)

Note - constant 2022 dollars in \$millions

Note - totals reflects combination of direct, indirect and induced

Berlin Subdivision Rail Corridor – Maintenance Costs – Interim Trail and Rail Service

- Annual Maintenance Costs were used as the basis for the annual upkeep for each of the six scenarios under consideration
 - Note** that the estimated maintenance costs are presented in total and without regard to the source of funding. If, for example, some portion of the funding were from the State of Maine, then those dollars are already in the State economy
 - As before, the metric of interest is **value added** or the additional impact to gross state product for Maine’s economy over the period of construction.

SUMMARY COMPARISONS - IMPLAN Models (total) and in rounded \$millions					Estimated Annual
Annual Maintenance Costs					
Type of Use(s)	Employment	Labor Income	Value Added	Output	Direct
Freight Rail	18	\$1.41	\$1.98	\$4.10	\$2.13
Passenger Rail	20	\$1.55	\$2.17	\$4.51	\$2.34
TUR - Gravel	1	\$0.08	\$0.09	\$0.23	\$0.12
TUR - Paved	1	\$0.08	\$0.08	\$0.19	\$0.10
RWT - Gravel	1	\$0.08	\$0.11	\$0.23	\$0.12
RWT - Paved	1	\$0.08	\$0.09	\$0.19	\$0.10

Source: IMPLAN, VHB and RKG (2022)

Note - constant 2022 dollars in \$millions

Note - totals reflects combination of direct, indirect and induced

Note that these refer specifically to costs, for maintaining the trail and/or rail infrastructure **only** and do not include any operation costs for potential rail service.

Berlin Subdivision Rail Corridor – Potential Restoration of Rail Services

- Draw upon the research recently completed by RKG as a part of the Lewiston-Auburn Rail Study for:
 - **Auburn, Maine** (station)
 - **Pineland (East), Maine** (station)
 - **Yarmouth Junction, Maine** (station)
 - **Portland, Maine** (platform site)
- **Station Fiscal and Economic Metrics**
 - Residential Units
 - Household Retail Spending Demand
 - Development Potential (SF) for Selected Retail and other Non-Retail Uses
 - Potential New Employment (not specifically Rail related)
 - Residential Property Valuations and Gross Residential Property Tax
 - Non-Residential Property Valuations and Gross Non-Residential Property Tax
 - Portland, Maine Platform – baseline metrics are offered **only**

Berlin Subdivision Rail Corridor – Auburn, ME – Rail Service

Selected Comparative Metrics	Auburn Station (1)			% Δ 2021-2026
	2010	2021	2026	
Total Population	5,074	5,060	5,105	0.9%
aged 20 to 34	795	721	647	-10.3%
aged 35 to 54	1,635	1,418	1,370	-3.4%
65 and older	698	994	1,160	16.7%
median age	42.2	45.3	46.8	3.3%
Total Housing Units	2,194	2,263	2,298	1.5%
owners households	1,651	1,675	1,727	3.1%
renter households	429	455	435	-4.4%
Owner Median Value	na	\$208,182	\$298,295	43.3%
Owner Average Value	na	\$253,729	\$352,606	39.0%
Median Household \$	na	\$79,453	\$86,117	8.4%
Per Capita \$	na	\$40,890	\$46,412	13.5%
Totals (2021)	Firms	Employees	Emp/Firm	% of Firms
retail sector	61	560	9.2	20.1%
office sector	15	93	6.2	5.0%
service sector	95	1,769	18.6	31.4%
manufacturing sector	31	2,228	71.9	10.2%
other	101	1,649	16.3	33.3%



Note – This reflects a 3-mile radius (study area) about a potential station site for Auburn. This study area offers an approximate location for the station, **only**, in order to compile baseline metrics. This **is not a definitive or final location** for an Auburn Station – which is yet to be determined.

Berlin Subdivision Rail Corridor – Pineland (East), ME – Rail Service

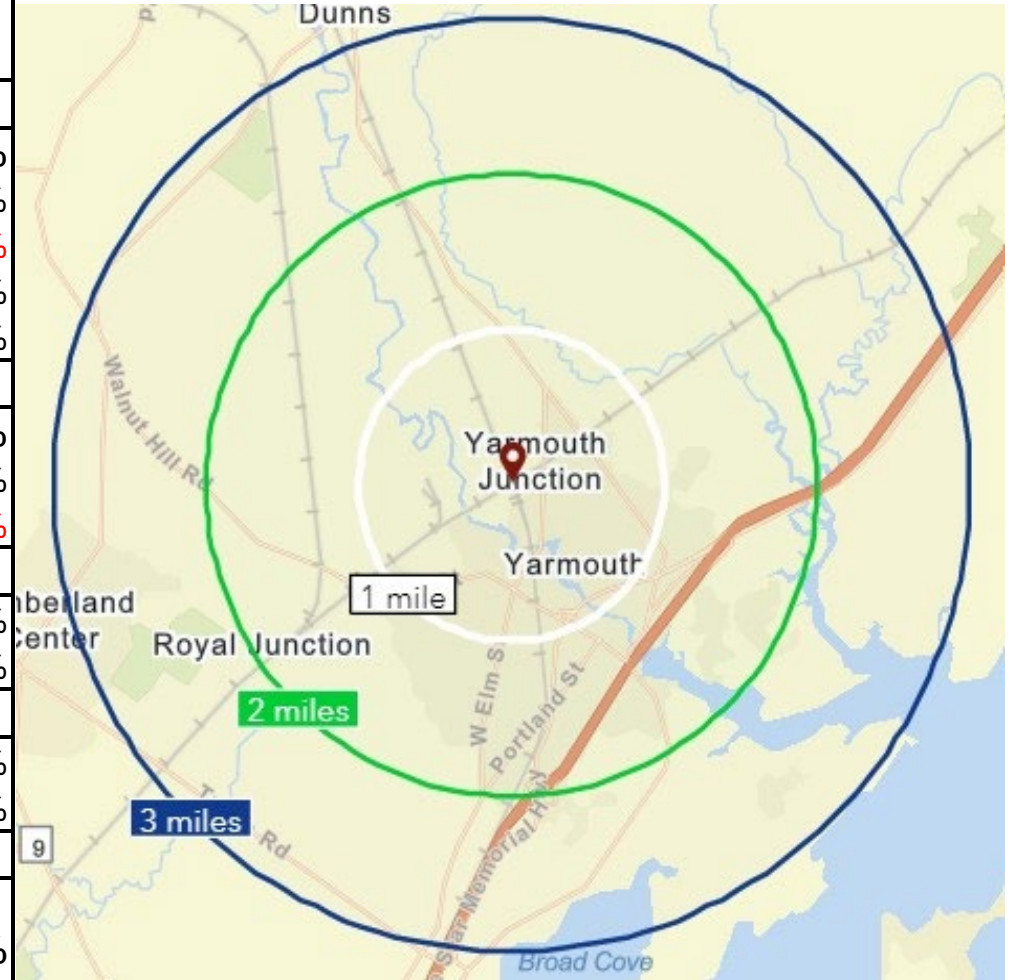
Selected Comparative Metrics	Pineland East Station (1)			% Δ 2021-2026
	2010	2021	2026	
Total Population	2,235	2,404	2,517	4.7%
aged 20 to 34	290	397	424	6.8%
aged 35 to 54	782	625	599	-4.2%
65 and older	224	433	551	27.3%
median age	41.5	44.2	44.2	0.0%
Total Housing Units	910	998	1,042	4.4%
owners households	745	827	875	5.8%
renter households	119	114	113	-0.9%
Owner Median Value	na	\$328,125	\$374,061	14.0%
Owner Average Value	na	\$359,522	\$410,584	14.2%
Median Household \$	na	\$95,407	\$106,568	11.7%
Per Capita \$	na	\$47,146	\$53,006	12.4%
Totals (2021)	Firms	Employees	Emp/Firm	% of Firms
retail sector	13	69	5.3	14.3%
office sector	5	44	8.8	5.5%
service sector	34	248	7.3	37.4%
manufacturing sector	2	15	7.5	2.2%
other	37	215	5.8	40.7%



Note – This reflects a 3-mile radius (study area) about a potential station site for Pineland (East). This study area offers an approximate location for the station, **only**, in order to compile baseline metrics. This **is not a definitive or final location** for a Pineland (East) Station – which is yet to be determined.

Berlin Subdivision Rail Corridor – Yarmouth Junction, ME – Rail Service

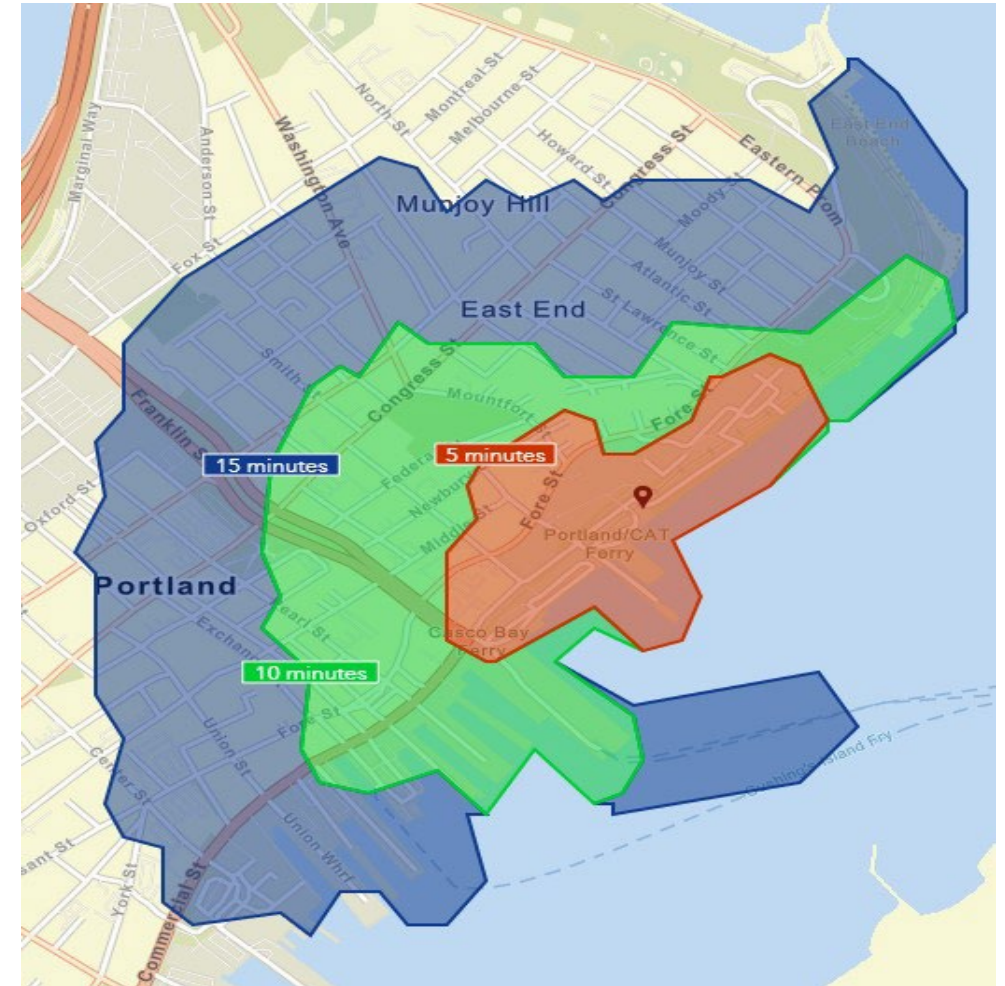
Selected Comparative Metrics	Yarmouth Junction Station (1)			% Δ 2021-2026
	2010	2021	2026	
Total Population	11,590	11,999	12,374	3.1%
aged 20 to 34	1,242	1,696	1,970	16.2%
aged 35 to 54	3,722	2,961	2,786	-5.9%
65 and older	1,804	2,649	3,128	18.1%
median age	45.2	48.3	49.0	1.4%
Total Housing Units	5,014	5,334	5,502	3.1%
owners households	3,566	3,822	3,999	4.6%
renter households	1,171	1,142	1,137	-0.4%
Owner Median Value	na	\$406,961	\$450,854	10.8%
Owner Average Value	na	\$463,190	\$502,613	8.5%
Median Household \$	na	\$98,748	\$109,741	11.1%
Per Capita \$	na	\$56,250	\$62,608	11.3%
Totals (2021)	Firms	Employees	Emp/Firm	% of Firms
retail sector	543	5,268	9.7	100.0%
office sector	107	1,230	11.5	19.7%
service sector	45	304	6.8	8.3%
manufacturing sector	239	2,274	9.5	44.0%
other	19	432	22.7	3.5%
	133	1,028	7.7	24.5%



Note – This reflects a 3-mile radius (study area) about a potential station site for Yarmouth Junction. This study area offers an approximate location for the station, **only**, in order to compile baseline metrics. This **is not a definitive or final location** for a Yarmouth Junction Station – which is yet to be determined.

Berlin Subdivision Rail Corridor – Portland, ME – Rail Service

Selected Comparative Metrics	City of Portland Platform (1)			% Δ 2021-2026
	2010	2021	2026	
Total Population	5,714	6,205	6,512	4.9%
aged 20 to 34	2,127	2,202	2,132	-3.2%
aged 35 to 54	1,519	1,579	1,801	14.1%
65 and older	437	720	816	13.3%
median age	32.1	33.9	35.1	3.5%
Total Housing Units	3,017	3,674	3,887	5.8%
owners households	598	920	1,006	9.3%
renter households	2,034	2,169	2,251	3.8%
Owner Median Value	na	\$457,689	\$536,676	17.3%
Owner Average Value	na	\$532,514	\$611,741	14.9%
Median Household \$	na	\$60,104	\$71,424	18.8%
Per Capita \$	na	\$46,367	\$54,366	17.3%
Totals (2021)	Firms	Employees	Emp/Firm	% of Firms
retail sector	1,470	19,385	13.2	100.0%
office sector	296	3,072	10.4	20.1%
service sector	233	2,809	12.1	15.9%
manufacturing sector	594	7,918	13.3	40.4%
other	29	599	20.7	2.0%
	318	4,987	15.7	21.6%



Note – This reflects a 15-minute walk time (study area) about a potential platform site for Portland. This study area offers an approximate location for the platform, **only**, in order to compile baseline metrics. This **is not a definitive or final location** for a Portland platform – which is yet to be determined.

Berlin Subdivision Rail Corridor – Summary Fiscal & Economic – Rail Service

Summary Comparison of Potential Benefits - by Station Study Area	Auburn		Pineland East		Yarmouth Junction	
	Low	High	Low	High	Low	High
New Housing (1)	37	58	17	26	85	172
Owner Units	26	43	13	22	60	135
Renter Units	11	15	4	4	25	37
Change in HH Spending in \$1,000's	\$898.7	\$1,427.0	\$538.4	\$871.9	\$3,425.9	\$5,416.1

Development Potential	4,559	5,073	15,682
Retail SF	666	4,580	11,342
Non-Retail SF (2)	3,894	493	4,340

Potential Employment (3)	62	8	74
Potential Spending	\$99,674	\$12,886	\$118,794

Potential Fiscal Impacts (FY22)	Low	High	Low	High	Low	High
	Owner Value (4)	\$5,328.67	\$8,812.80	\$3,830.67	\$6,482.67	\$17,680.00
Renter Value (5)	\$1,447.37	\$1,973.69	\$481.72	\$481.72	\$3,010.74	\$4,455.90
Total Residential Value \$1,000's	\$6,776.04	\$10,786.49	\$4,312.38	\$6,964.38	\$20,690.74	\$44,235.89
Estimated Gross Property Tax	\$161,405	\$256,934	\$59,511	\$96,109	\$409,677	\$875,871
Retail Value/SF	\$150	\$150	\$150	\$150	\$150	\$150
Non-Retail Value/SF	\$225	\$225	\$225	\$225	\$225	\$225
Total Non- Residential Value \$1,000's	\$975.87	\$797.95	\$797.95	\$797.95	\$2,677.75	\$2,677.75
Estimated Gross Property Tax	\$23,245	\$11,012	\$11,012	\$11,012	\$53,019	\$53,019

Berlin Subdivision Rail Corridor – Portland, ME – Rail Service

- The Portland site will likely accommodate a platform as opposed to a physical station. The site is densely developed noting **1,470** businesses within the study area – compared to **303** in Auburn as an example.
- While opportunities for residential development may be limited in the near term, there are other benefits to this location:
 - An increase in passengers at this location could introduce new consumer spending demand which could translate to additional sales to area dining and drinking establishments.
 - Improved health conditions as a potential reduction in automobile travel could translate to a reduction in pollutants and emissions.



Commuting Patterns – Portland, ME as Place of Employment

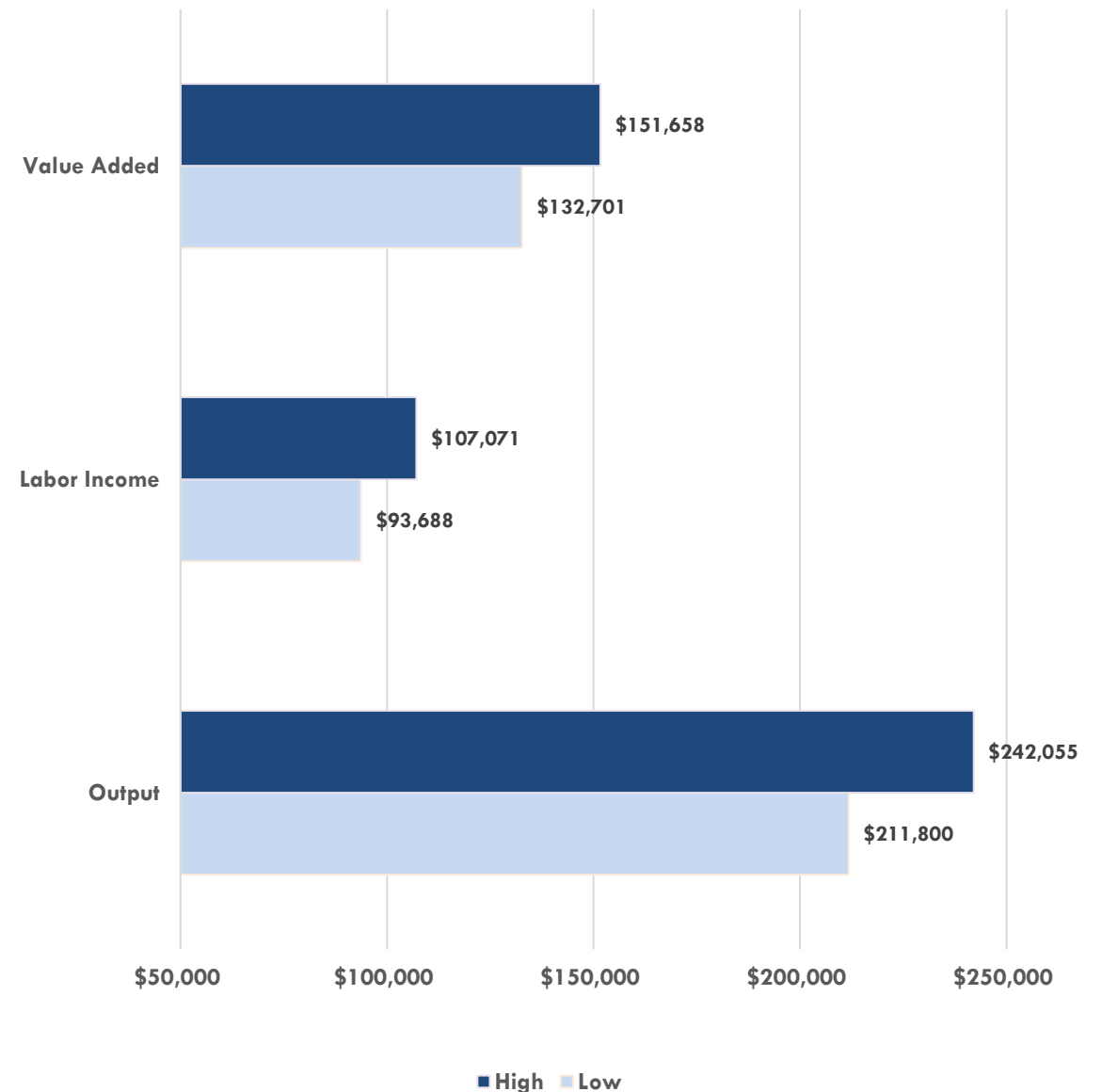
- Commuting patterns as reported by the U.S. Census Bureau, indicates that approximately **55,730** workers commute from outside of Portland for employment in Portland.
- Nearly **17,200** commute from distances greater than **24 miles** or approximately 31.0% of the inbound commuters.
- Approximately **1,050** Portland residents commute to Lewiston and an additional **815** residents commute to Yarmouth for their place of employment.
- Also, **469** residents commute from Lewiston to Portland; **336** residents commute from Yarmouth to Portland; and **393** residents commute from Falmouth to Portland for their place of employment.
- While Portland is a hub for business and employment, it is also an expensive housing market with estimated (2026) median housing values of nearly **\$536,700** as compared against:
 - **\$298,300** in Auburn
 - **\$374,100** in Pineland (East)
 - **\$450,900** in Yarmouth Junction

Berlin Subdivision Rail Corridor – Passenger Rail Spending – Rail Service

- NNEPRA provided data for on-board spending for passengers of the Downeaster which runs from Brunswick, ME to Boston (North Station), MA (9/2021 through 8/2022).
- On average, approximately 18.0% of the passengers made purchases in the café car, averaging approximately \$8/passenger.
- Applying these metrics to potential rail passengers for this analysis:

Low Ridership Estimate – annual (2025) ridership of 76,650 passengers with on-board spending of \$114,455 annually.

High Ridership Estimate – annual (2025) ridership of 87,600 passengers with on-board spending of \$130,805 annually.



Berlin Subdivision Rail Corridor – Potential Restoration of Rail Service

- Potential new job creation as related to the physical rail lines and activity such as engineers and conductors.
- Potential additional construction and investment in related rail infrastructure and maintenance facilities, as well as potential development that may arise from station construction - such as fiscal and economic benefits from new residential and non-residential activity.
- Service along the Corridor would potentially provide enhanced safety on public roads through reduced heavy truck traffic, and a potential reduction of the financial burden on public maintenance of the roadways.
- Enhanced affordable mobility as increased use of transit by low-income individuals may free up money in their budget for other uses not transit and/or commuter related.

Berlin Subdivision Rail Corridor – Summary Considerations

Interim Trail

- Relatively strong baseline socio-economic metrics among area population = usage and trips
- Additional consumer spending from \$3.52 to \$5.29 million annually = potential for increased consumer activity in area establishments
- Offers a “nearby” facility for increased recreational activity = more active population and reduced health care costs
- Potential positive fiscal impact on neighboring residential property values

Restoration of Rail Service

- Potential development of passenger station(s) = opportunities for TOD with new housing, mixed-use and other = positive fiscal and economic benefits to communities impacted on an ongoing basis
- Increased employment and economic activity specifically associated with rail services = freight or passenger
- Commuting alternative for the Lewiston-Auburn to Portland corridor = potential reduction in auto traffic, emissions, transportation costs (commuters) and enhance live/work options

IMPLAN Modeling

- Regardless of scenario, all direct dollar costs have a ripple effect throughout the statewide economy = varies by scenario and direct input dollars