



Transit X, LLC offers a preliminary proposal for
Plymouth and Kingston, MA

For a privately-funded shared mobility service that is

High capacity • Automated • Wait-free
Solar powered • Final destination • Resilient





Economics for Plymouth and Kingston, MA

Inputs are underlined.

Size of region	<u>298.1</u> km ²	115.0 sq miles
Number of people in region (residents + visitors)	<u>70,900</u>	
Travel distance per year by all people (residents and visitors)	1,028,050,000 km	638,540,373 mi
Percentage of all travel that occurs within the region	<u>60%</u>	
Road coverage (percent of area conveniently served by paved roads)	<u>50%</u>	
Service area size	149.05 km ²	57.5 sq miles
Coverage (percent of people convenient to Transit X)	<u>10%</u>	
Estimate #1 for network length based on desired coverage	<u>18</u> km	<u>11.3</u> miles
Length of paved roads (non-highway) in region	<u>373</u> km	<u>231.4</u> miles
Estimate #2 for network length based on paved roadways	<u>19</u> km	<u>11.6</u> miles
Transit X network length	19 km	11.6 miles
Total fixed costs for Transit X	\$43,317,656	
...per person	\$611	
Mode share of travel on Transit X	9%	
Distance traveled on Transit X, per year	52,430,550 km	32,565,559 mi
...per day	143,645 km	89,221 mi
Daily number of people riding Transit X	6,027	
Distance per Transit X customer per day	24 km	14.8 mi
Average trip distance	8 km	4.9 miles
Cost for an average trip (at \$0.28 per km)	\$2.23	
Distance traveled during peak hour	14,365 km	8,922 mi
Number of pods needed to meet peak demand	125 pods	
Pod shed parking volume	4 standard 53' trailers	
Cost of pods	\$625,000	
Cost of pods per person	\$9	
Yearly payment to municipality for RoW	\$861,815	
System Economics		
Total system cost	\$43,942,656	
OPEX (O&M) per year	\$3,075,986	
Equity	\$21,971,328	
Financed	\$21,971,328	
Revenue from fares	\$14,746,092	
EBITA (Profit)	\$11,670,106	
Debt service	\$2,856,273	
OPEX + Debt service	\$5,932,259	
Net income	\$8,813,834	
Operating Margin	79%	
One-time project costs (per person)	\$620	
Operating costs (per passenger-mile)	\$0.18	
Equivalent number of cars taken off the road	3,616 cars	
Yearly cost of cars removed (per person)	\$459	
Breakeven revenue distance per day	57,788 km	35,893 mi
Breakeven (people riding daily)	2,424 people	
IRR (Internal rate of return)	17%	
Payback period (profits pays back equity)	23 months	
Network capacity (number of pods)	555 pods	
Peak demand as % of maximum track capacity	23%	
Externalities (estimated)		
Reduction in CO2 emissions	6,213,020 kg CO ₂	
Public cost for maintaining roadways per year	\$19,003,875	
Reduced waste products per year	338,991 kg	
Travel time saved (hours per person per year)	423	
Cost savings per household per year over personal car ownership	\$2,947	
Increase in household income from time saving and car costs	20%	
Reported injuries avoided per year	33	
Lives saved per year	0	
Land freed from less street parking and parking lots	TBD	
Health care cost savings from lower pollution	TBD	
Municipal revenue from leasing rights-of-way	\$124,510	