Transit X™

Transit X, LLC offers a concept proposal for

Jamaica, Queens, NY

For a privately-funded mobility service that is

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

Economics for Jamaica, Queens, NY

Inputs are underlined.

Size of region	9.92	km²	3.8 sq miles
Number of people in region (residents + visitors)	217,000		
Travel distance per year by all people (residents and visitors)	3,146,500,000	km	1,954,347,826 mi
Percentage of all travel that occurs within the region	30%		
Region's area that is conveniently served by paved roads	90%		
Area to serve	8.928	km	5.5 mi
Desired coverage (percent of people convenient to Transit X)	100%		
Estimate #1 for network length based on desired coverage	22	km	13.6 miles
Length of paved roads (non-highway) in region	22	km	13.9 miles
Estimate #2 for network length based on paved roadways	11	km	6.9 miles
Transit X network length	**22**	km	13.6 miles
Total fixed costs for Transit X	$50,834,939		
…per person	$234.26		
Mode share of travel on Transit X	85%		
Distance traveled on Transit X, per year	802,357,500	km	498,358,696 mi
…per day	2,198,240	km	1,365,366 mi
Daily number of people riding Transit X	184,450		
Distance per Transit X customer per day	12	km	7.4 mi
Average trip distance	4	km	2.5 miles
Cost for an average trip	$1.12		
Distance traveled during peak hour	219,824	km	136,537 mi
Number of pods needed to meet peak demand	**1,908**	pods	
Pod shed parking volume	68	standard 53' trailers	
Cost of pods	$9,540,000		
Cost of pods per person	$44		
Milage per year per pod	420,523	km	too high
Revenue per pod per year	$118,272		
Yearly payment to municipality for RoW	**$11,429,270**		

System Economics

Total system cost	$60,374,939		
OPEX (O&M Costs)	$4,226,246		
Equity	$30,187,469		
Financed	$30,187,469		
Revenue from fares	$225,663,047		
EBITA (Profit)	$221,436,801		
Debt service	$3,924,371		
OPEX + Debt service	$8,150,617		
Net income	$217,512,430		
Operating Margin	98%		
One-time fixed costs (per person)	**$278**		
Operating costs (per passenger-mile)	**$0.02**		
Equivalent number of cars taken off the road	**55,335**	cars	
Yearly cost of cars removed (per person)	**$2,295**		
Breakeven revenue distance per day	79,397	km	49,315 mi
Breakeven (people riding daily)	**6,662**	people	
IRR (Internal rate of return)	**360%**		
Payback period (profits pays back equity)	**2**	months	
Network capacity (number of pods)	652	pods	
Peak demand as % of maximum track capacity	**293%**		

Externalities (estimated)

Reduction in CO2 emissions	**95,079,364**	kg CO_2
Public cost for maintaining roadways per year	**$1,138,320**	
Reduced waste products per year	**5,187,656**	kg
Travel time saved (hours per person per year)	211	
Cost savings per household per year over personal car ownership	$1,474	
Increase in household income from time saving and car costs	**10%**	
Reported injuries avoided per year	**497**	
Lives saved per year	**5**	
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	$146,117	